Janus Pannonius University
Faculty of Business and Economics
H - Pecs

PhD-Dissertation

The Position of the Logistics Service Provider within the Supply Chain and the Achievement of Dominance through Customer Relationship Management

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2008

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Preliminary Remarks

After several years of professional experience at management level in the subject area of this Thesis, I was inspired to examine the highly interesting development of logistics service providers in regard to Supply Chain Management (SCM) and Customer Relationship Management (CRM) on the basis of academic and practical findings, and to produce a direct link between CRM and SCM. In dealing with this subject matter, my several years of experience as an assistant lecturer at the University of Applied Sciences of Fulda and Deggendorf were very helpful.

The objective of the examination was to prove that prior existence/implementation of CRM is for the logistics service provider the key to be successful in SCM business achieving a dominant role within supply chain.

This interface between the disciplines of logistics and marketing is not yet given anywhere near the level of significance, in the literature and actual application, as is due with regard to successful business management. This raises the question of what the medium size logistics service provider is putting in place to link into this new perception in terms of vision, strategy and operations.

Based on my theoretical and empirical research, the Thesis is divided into 4 main chapters.

Chapter (1) illustrates how the logistic environment of the logistics service provider is being dynamically improved, and points to conclusions to be drawn in respect of the market, competition and logistic skills.

Chapter (2) addresses the role of the logistics service provider within Supply Chain Management and in particular therefore includes concepts, strategies and outsourcing opportunities.

Chapter (3) is aimed at showing that the successful application of Customer Relationship Management significantly increases the influence of the medium size logistics service provider within Supply Chain Management, and helps to achieve a more dominant status through process organization and process management, right up to the design of customer-oriented logistic processes.

Chapter (4) gives the results of the author's empirical research to survey of German logistics service providers on the employment of customer-strategy activities, which ultimately form preconditions for introduction into professional Customer Relationship Management, with the objective of deeply penetrating the supply chain. The difference between claim and reality becomes transparent here.

Although this PhD Dissertation has been written at a Hungarian University, the theoretical part is based mainly on German literature (Given the specialty of the topic – analyzing typical middle-sized ("mittelstandige") firms - of the dissertation there was not much found in English. Besides that, my Hungarian is somewhat limited). The empirical research was made in Germany, therefore the empirical part deals primarily with German information and results, very heavily influenced by the author's professional field of activity in the Federal Republic of Germany.

However the possibility of the author together with Hungarian scientists tackling a comparative research in Hungary in the near future seems to be reality. (It is planned to start a joint research on status, market power, market analysis and customer relationship on 12 German and 12 Hungarian middle-sized logistics service providers, through involving researchers of the University of Deggendorf and St. Stephen University in Gödöllö.)

A PhD Dissertation cannot be successfully completed without support, providing the author with logistical, conceptual and human assistance.

I would like to express my special thanks to my PhD supervisor, Professor Zoltan Szegedi, who has given me valuable suggestions and great support in drafting the Dissertation. The valuable critics of the pre-examiners, Professor Krisztina Demeter (Budapest Corvinus University) and Professor Peter Földesi (Szechenyi Istvan University) inspired me to rewrite some chapters and to make an additional complementary empirical research.

The painstaking task of bringing this Thesis into its present form would not have been possible without the exemplary dedication of my management colleague, Mrs. Annemarie Roth, to whom I hereby offer my grateful thanks.

Special thanks are also due to my Family, in particular my wife Maximiliane, who has displayed patience and leniency towards the additional work involved in the time-consuming compilation of the thesis.

Moreover, I would also like to thank to the professors of the University of Pécs, to the executives interviewed in the empirical research, to my colleagues at elsenthal TransportLogistik GmbH, and its customer companies, who encouraged me in the individual phases of the thesis with their enthusiasm and ideas.

Schönberg, March 2008 Josef Zellner

Theses

The author of the PhD-Dissertation was in a long period of time as partner and top executive of big international and medium sized freight shippers and logistics service providers involved with the development of supply chain management. He is also aware of the role of the medium-sized logistics service provider within the network of co operations which are essential on the market. Medium-sized logistics service providers as members of network co operations are right now in the position to increase their service portfolio and create more turnover and profit. The author is convinced that a systematic scientific approach in this area can help the firms to develop the right strategy to service in global markets. Based on his experience expounds the author four theses which are going to show how medium-sized ("mittelstandige") logistics firms can achieve more dominance within the supply chain.

The author assumes that in regard to their flexibility the medium-sized logistics service providers will be the winners by changing their roles within the supply chain process.

Thesis (1) - Main thesis

It is assumed that **in the near future the medium sized logistics service provider wants to achieve a more dominant role within the supply chain. He may only be able to realise these targets, if he uses a targeted broad based "Basis Customer Relationship Management"** (CRM) as a precursor for his complex range of tasks within the Supply Chain Management (SCM) (and turning customer satisfaction and customer loyalty into the central activities of its business strategy). Its exchangeability is clearly limited.

Thesis (2)

On his route **to take on a more dominant role in the Supply Chain via CRM the logistics service provider has to be able to adjust and change his range of offers**. The continual increase of his service portfolio exceeding distribution processes towards procurement and production logistics and additional value added services is as important as the increase of efficient logistical services.

Thesis (3)

On his route **to an increased dominant role in the Supply Chain via CRM** the medium sized logistics service provider **has to develop such a marketing and a competitive strategy that includes growth and positive competitive strategy limitation, which explicitly identifies important logistics competence** and is clearly demonstrated in marketing/distribution. This transfer to a customer-centred orientation will therefore become the basis of customer satisfaction and bonding that will long-term manifest a successful business relationship.

Thesis (4)

On its way **to a more dominant role in the Supply Chain via CRM** the top-management of the medium sized logistics service provider **has to have a large scope of competences and has to be able to define in a company target strategy the complexities of tasks** compiled in theses (1) to (3) and to realise it successfully via the company organisation. Final decisiveness lies in the actual procedures and results that will invoke corresponding positive effects and experiences with the customer.

The interdependence of thesis 1 to 4, which are mentioned above, can be seen in Figure T 1. It is essential that customer relationship management is supported by an increase of the service portfolio, a marketing strategy and the competence of the top management. If this support is successful, the medium sized logistic service provider will achieve a more dominant role within the supply chain while the added value of the other supply chain partners will (usually) not be reduced.

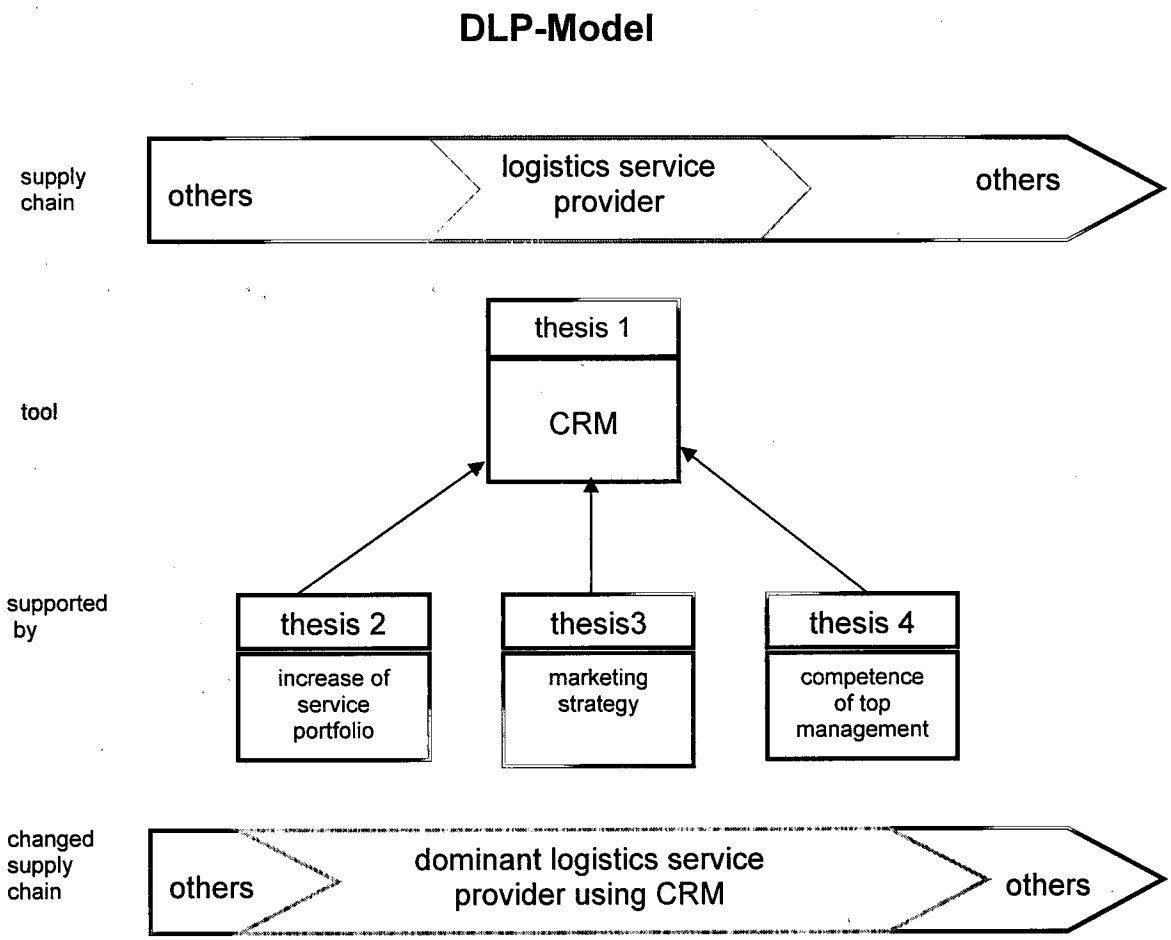


Figure T 1 The DLP-Model (dominant logistics service provider-model), Josef Zellner, 2008

Profile of the Medium-Sized Logistics Service Provider

The focus of the PhD-Dissertation has been to examining the role of the medium-sized logistics service provider within the supply chain process. Because it has been a German "phenomenon", the international (English language) literature does not examine this area as a special segment. EU Member States traditionally had their own definition of what constitutes an SME, for example the traditional definition in Germany had a limit of 500 employees, while, for example, in Belgium it could have been 100. But now the EU has started to standardize the concept. Its current definition categorizes companies with fewer than 50 employees as "small", and those with fewer than 250 as "medium". By contrast, in the United States, when small business is defined by the number of employees, it often refers to those with less than 100 employees, while medium-sized business often refers to those with less than 500 employees. However, the most widely used American definition of micro-business by the number of employees is the same of that of EU: less than 10 employees.

(The EU-documents for example give a definition for small- and medium sized companies (SMEs[1]): According to http://ec.europa.eu/enterprise/ enterprise_ policy/sme_definition/index_en.htm the following table applies:

Enterprise category	Headcount	Turnover	or	Balance sheet total
medium-sized	< 250	≤ € 50 million		≤ € 43 million
small	< 50	≤ € 10 million		≤ € 10 million
micro	< 10	≤ € 2 million		≤ € 2 million

[1] SME is the recognised abbreviation for Small and Medium Sized Enterprises.

In the contrary, the so called „mittelstandige" – companies are more specified in the German Literature, stating that a middle-sized entity qualifies at the higher end of the EU SME-scale[2]. It needs specific management practices (similar to big multinational firms), nevertheless it has been more vulnerable (does not have the safety net of the multinational environment). They show many "symptoms" of multinational firms, on the other hand they have a more limited resource base, and are less multicultural.

The German economy backs on a large scale on these mittelstandige enterprises. Policy makers pay high attention to them in defining the country's economic strategy.

The following figure (Figure T 2) shows the basic characteristics of the firms included in the research of the dissertation concerning achievement of dominance though customer relationship management.

[2] Despite governments and many of the multinational organisations targeting this group for special purposes (for example for financial business support), there is no single definition for an SME either nationally or internationally.
In the UK, the majority of the workforce is employed by SMEs. Statistics for 2006 published by the DTI Small Business Service (SBS) Statistics Unit show that out of 4.5 million businesses in the UK, 99.3% were small firms with fewer than 50 employees, and 0.6% were medium firms with 50-249 employees see:(Small and Medium Sized Enterprise Statistics for the UK 2006, published 22 August 2007)
Despite governments and many of the multinational organisations targeting this group for special financial business support, there is no single definition for a SME either nationally or internationally.

Indicator/Scale	Measured Value
turnover (Mio. €)	75 – 225
Employees (Nr)	250 – 1.500
Locations (Nr)	3 – 11
Type of network co operations	national and international
Specific network co operations	national transport by land
	international transports by land
Service portfolio	air- and sea freight
	warehousing
	procurement and distribution-services
	contract based logistic services
	customer integration
	logistic consulting planning and managing
	additional logistic services

Figure T 2 (General) Profile of the medium-sized logistics service provider

In the followings we will have these companies in mind unless it is differently indicated.

Chapter (1)

Development Areas in Logistics - a Comprehensive Overview

1.1. General trends

1.1.1. Competition through Logistics and through Supply Chains

"Constantly increasing competitive pressure, against the background of globalization, as well as individualized customer needs and growing customer demands have made lasting changes to the competitive environment in practically all business sectors. Companies have to respond to this by exploiting the potential of new information technologies, enhanced networking and customer orientation." (see Pfohl, 2000, p. 3). This way value added chains have been to some extent fundamentally redesigned in several sectors.

Many scientists agree on the interpretation that logistics is defined as the process of controlling physical flow and connecting information flows (see for example Colin-Fabbe-Costes, 1993). It is a major contributor to economic performance in large corporations, and it will be accepted as a tool for economic efficiency. (see Kearney, 1984; Chow, G.-Heaver, T.-Henriksson. L., 1994) The company gets efficient, if – together with its partners – it is able to reduce the costs of the logistics activities (procurement, warehousing, inventory management, transportation, distribution, etc.) and if it appropriately satisfies the customers.

Business interest in logistics began around 1950 and has developed since that time progressively. Researchers speak about stages, as the logistics functions have been integrated into the organizational structures of companies. See to this: (McGinnis, M.-Kochunny, C.M.-Ackermann, K.B., 1995), (Inkalainen, A.-Vepsalainen, A., 2005), etc.

Figure 1.1. shows the development of logistics within companies of the competitive sphere.

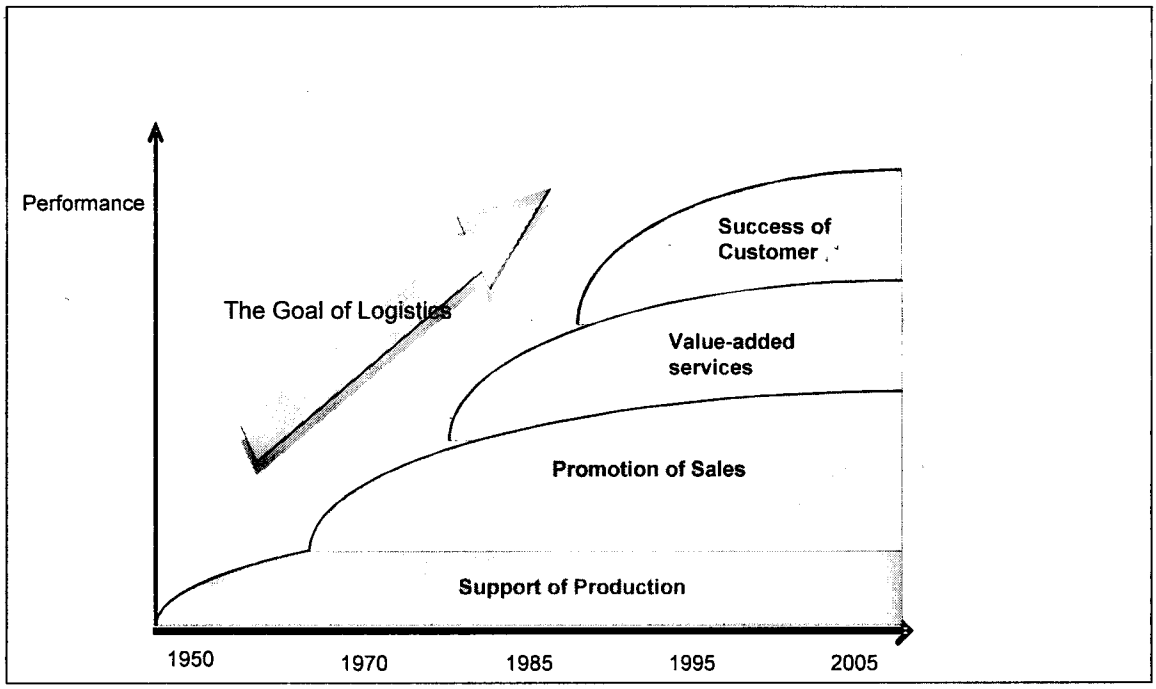


Figure 1.1. Changing Mission of Logistics/SCM (see Inkalainen-Vepsalainen, 2000, in: Szegedi-Prezenszki, 2005, p. 4)

When having a deeper look on this development, we should be aware of the fact, that until around 2000 researchers mostly on large enterprises. Even previous surveys in Germany, but also for example in Hungary, usually targeted big firms (in the new EU countries usually subsidiaries of multinationals) with less attention paid to medium-sized ones (see Szegedi-Illes, 2007, p. 2), or the complex research flow of "Versenyben a vilaggal" – In competition with the World - lead by Prof. Attila Chikan. See to that: Chikan Attila, Demeter Krisztina

(2006), and Chikan A, Czako E, Zoltayne Paprika Z (ed.) (2002)). Based on a few authors, who dealt with this issue, the changing role of logistics affects SMEs similarly.

Before 1989, logistics didn't pay attention to the shortage economies of Central-Eastern Europe. Companies could not produce enough, and could sell "everything". In a production oriented economy neither the costs nor the service level of logistics awoke interest (except export shipments outside of the COMECON countries (see Szegedi/Illes, 2007, p. 4).

Middle-sized enterprises – similarly – have and are able to implement logistics procedures to improve their performance. Despite of that, few researchers have considered logistics as a strategic tool in small firms. Researchers of this field tend to look at SME-s as "logistics beneficiaries", who are on the passive side, while large corporations do the majority of the logistics "job" (within the supply chain).

Most researchers agree on the on the view that individual companies – especially SMEs - are no longer in competition with each other today, but rather entire supply chains (usually of both large-, middle-sized- or small companies) are often fighting for market shares. In future this will increasingly interconnect different partners from trade, industry and service branches. As a decisive link, logistics has created the conditions for this interconnection and guarantees the required ability to respond and flexibility through the design and control of emerging networks. A successful entrance into these segments by logistics service providers should encourage both customer orientation and customer loyalty management (see Rekettye/ Farkas, 1996, and Corsten/Gabriel, 2004, p. 4).

While large (multinational) companies are better in terms of economic competitiveness due to their size and the financial benefits they enjoy on the global market, this does not work for small and middle-sized companies

(SME's). The path to SME-competitiveness – even when fixing and streamlining their logistics processes and installing their logistics information systems – begins with *flexibility and adoptability*: they must meet the unique needs of their large customers by constantly improving the quality of their service and by adapting to customer standards. (see Szegedi, 2008, p. 359) The author further proves that over the last ten years there have been many Hungarian middle-sized logistics service providers developed – with appropriate sizeable income - where similar major tendencies take place as in their German counterparts/clones.

1.1.2. Growing Task Areas in Logistics

The area of logistics is characterised by an exemplary dynamic. This is reflected in a constant expansion of the range of logistical services, from once predominantly physical activities, through focussed cross-functional tasks, to integrated, process and customer-oriented leadership and coordination tasks.

Modern business logistics includes integrated planning, management, implementation and control of all intra- and inter-company flows of goods and information. The changing nature of logistics however may be described as **expansion** rather than **substitution** of task areas. Thus even today storage, transport, turnaround and commissioning are considered essential task areas for logistics on the operational level (see Koether, 2006, p. 28 and 29).

Operative logistical task areas form also the basis and the backbone for any intra- and inter-company logistical system.

In logistics as a whole (and as part of Operations Management), an increasing share of significant tasks is emerging in the area of management and coordination of inter-company processes, right through to business

management and strategy development. This is closely related to changes in the system of logistical targets, which now pursues an increase in company value as the supreme business target, through improving the availability of goods and materials, as well as reducing inventories (see Vörös, 1999 and Weber/Dehler, 2000, p. 59 and 60).

Synchronization of sales and procurement within an integrated value-added chain (supply chain) form a precondition in this regard, beginning with suppliers of raw materials and ending at the customer. The main target is therefore the overall optimization of material-goods-information and value-flow within the added value chain (see Figure 1.2.):

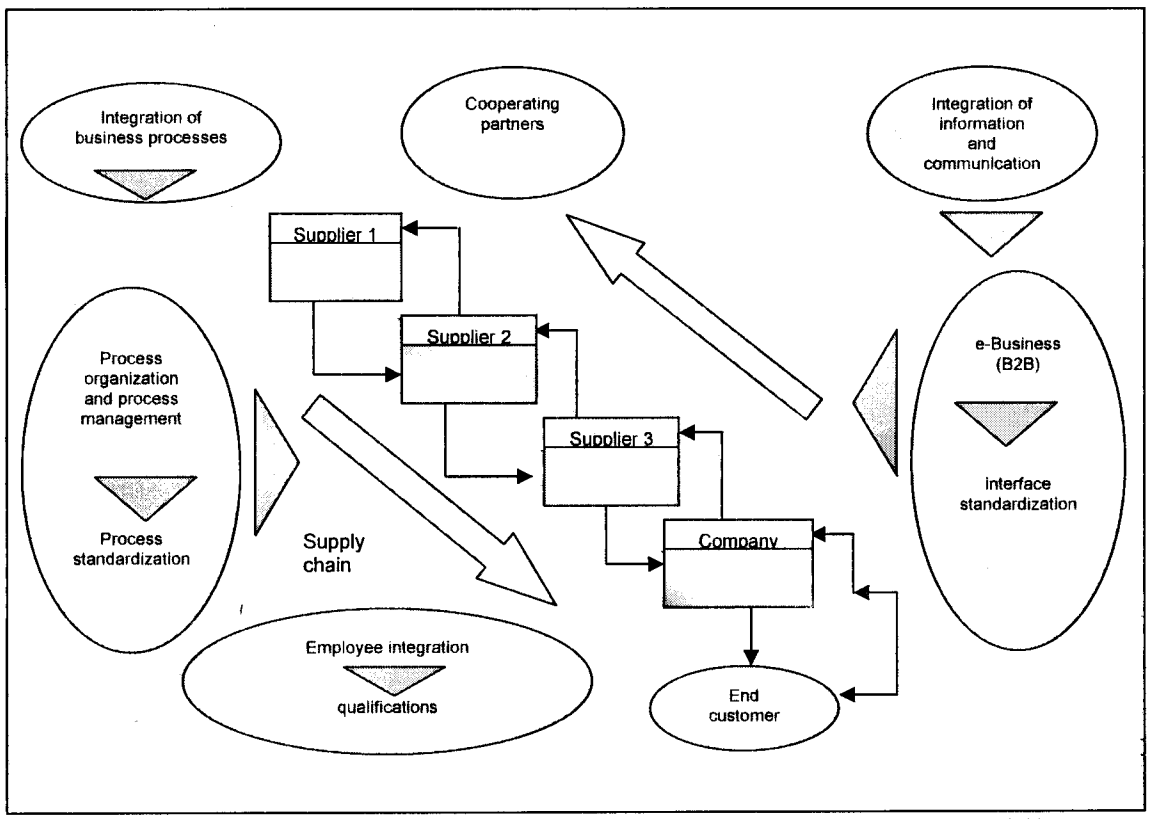


Figure 1.2. Value-added chain development (see Binner, 2003, p. 290)

As shown in Figure 1.2. the main success factors are the followings:

- ► integration of logistic processes in the business processes
- ► effective process management
- ► integration of information and communication technology.

These success factors are based on the integration of the employees in planning and implementation of modern, IT supported processes.

In addition to the considerable potential for reducing costs of logistical concepts, the consistent alignments to the customer of all processes that form the basis of logistics, and the resultant improvement in customer satisfaction are relevant in this respect. The appropriately firmer establishment of logistics within the enterprise is characteristic of the new interpretation of logistics as a strategic instrument in business management. It is recognized that there are substantial benefits to be gained from strategically trying to drive a whole chain in the direction of satisfying end customers (see Tan/Smith/Saad, 2006, p. 238). These benefits can be established not only in the field of the big companies also small and medium-sized enterprises can deal with managing the global supply chain.

In respect of trading in particular, which has the highest comparative share of logistical costs, by virtue of its considerable potential for reducing costs logistics has acquired strategic importance. Thus, taking on logistic leadership within the logistic chain is seen as a necessary precondition for achieving cost leadership in competition. Logistics is already firmly established at an appropriate level within trading companies.

However logistics is also being accorded increasingly high status at industrial undertakings. This relates primarily to aspects of logistics, which have become a decisive recipe for success in competition. Without properly functioning logistics, progressive networking between industry and its suppliers and customers cannot be realised (see Koether, 2006, p. 36).

In the last decades we saw a shift from mass production to mass customisation a higher rate of technological change, shorter life cycle and fast-changing customer expectation (see Fürst/Schmidt, 2001, p. 525-533).

Traditional purchasing and logistics functions have since evolved into a strategic level of materials management spanning the entire supply chain and known as supply chain management (see Fung, 1999, p. 362-366, Tan, 2001, p. 39-48).

1.1.3. Increasing qualification requirements

The training and know-how of skilled labour and executives in the area of logistics must be adapted to this growing task area, with its qualitative changes. This concerns both the necessary specialist knowledge and also requirements of individual-related soft skills.

A successful strategic alliance agreement needs to be managed by people with the right skills and leadership qualities. Both supplier and customer should appoint a champion at their end to drive the project within their own companies and act as the point of liaison (see Tan/Smith/Saad, 2006. p. 472-481).

Integrated and analytical thinking and a distinct organisational talent form the basis for any operation in logistics management. Moreover, the increasing establishment of logistics within the upper hierarchies of companies increasingly requires top logisticians to have qualities in relation to management of employees and project teams, basic skills in other disciplines and improved knowledge of foreign languages for the purpose of communication with customers and partners. In particular the networking of companies and value-added chains extends the requirement profile of logisticians. In future improved knowledge of supply chain management and information technologies are therefore decisive qualification criteria. Furthermore, logisticians will be required to act more often as moderators or brokers between the diverging interests of project and supply chain partners (see Gerberich, 2003, p. 354 and 355, and Pakurár/Gályász/Nagy, 2005).

In addition to leadership qualities, this requires a high degree of team orientation at the same time.

The increasingly comprehensive and strategic character of logistics is reflected in the growing importance for the logistician of specialist knowledge in the areas of strategic management, project management and controlling.

These requirements are also directed at assigning overall responsibility for logistics, already often residing with the highest echelons of the management hierarchy, as shown in Figure 1.3:

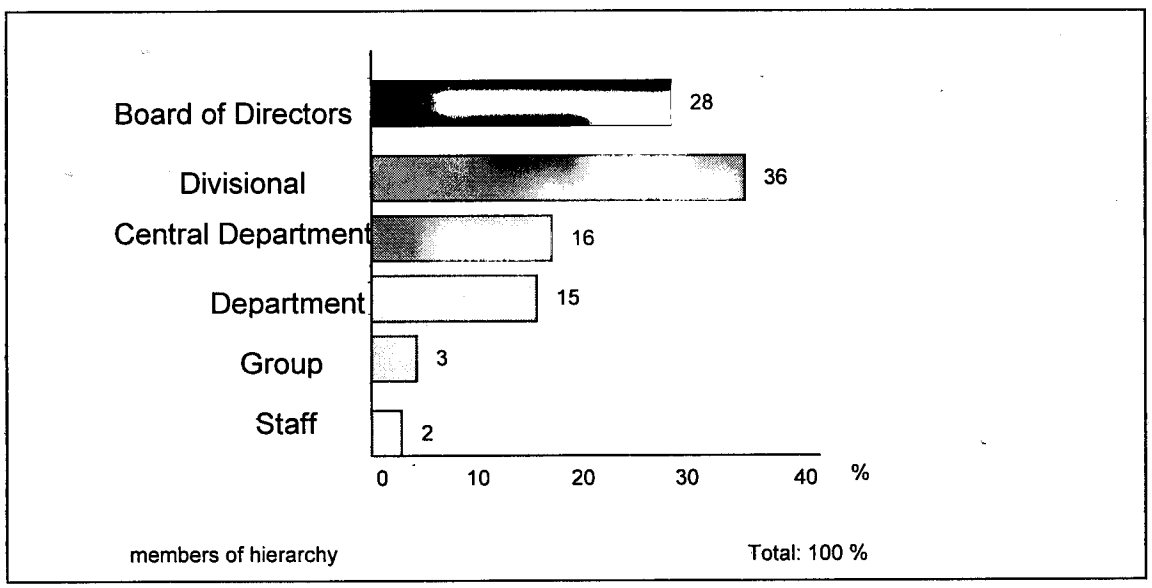


Figure 1.3. Assignment of overall responsibility for logistics in companies Results of a survey carried out at 700 companies in Germany in 2000 (see Baumgarten/Walter, 2000, p. 10)

There has been an interesting research done in Hungary at Veszprem University, analyzing the necessary competencies on the field of logistics. According to a comparative survey (Pato Gaborne Szucs/Kovacs/Pato, 2008), the 10 most important competencies for a "Logistics manager" (with no further explanation in the source) are the followings:

Desperately needed competencies	% of the answers and (ranking)
Reliability	75,7 (1)
Honesty	73,4 (2)
Sophisticated appearance	69,9 (3)
Decisiveness	67,1 (4)
Independence	66,5 (5)
Communicational skills	65,9 (6)
Organizational skills	64,2 (7)
Problem-solving skills	63,1 (8)
Thoroughness	63,0 (9)
Result-oriented	59,8 (10)
Etc.	

Table 1.1. The 10 most important competencies for a "logistics manager" (see Pato Gaborne Szucs/Kovacs/Pato, 2008, p. 134)

1.1.4. Control with Information Technology

The share of logistic-related investments in information technology (IT) systems for logistics amounts to between 20% and 25%, and continues to grow sharply. For industrial undertakings, investments in production planning and management systems (PPS) have always been of great significance, and there is an increasing trend for the usage of consumer goods. Fundamental systems for information exchange are increasingly appearing in both areas. However, the largest growth in significance is registered by systems for support of management of the value added chain. Supply chain management systems (SCMS) in general and advanced planning and scheduling systems (APS) in particular. These systems are essential for the IT integration of partners in the value added chain (see Hellingrath/Laakmann/Nayabi, 2004, p. 99).

But while the car industry employs comprehensive planning systems such as APS on the basis of enterprise resource planning systems (ERP), the consumer goods industry uses analogue IT systems, as does trading. The importance of IT systems for supply chain management, data warehouses, electronic data interchange (EDI) and customer relationship management (CRM) is associated with appropriate investment conduct in these sectors. Data warehouse systems, alongside the essential goods management and identification systems, will in future hold the highest degree of importance in trading by virtue of constantly increasing data quantities under central administration (see Thaler, 2006, p. 491 and 492).

With an integrated assessment of the value-added chain, ERP and PPS systems are reaching their limits however. SCM software is becoming important instead. Not only do internal processes have to be portrayed, but also in particular the processes of suppliers, logistics service providers and customers (see Hellingroth/Laakmann/Nayabi, 2004, p. 99).

All sectors are assuming increasing importance in the area of workflow management systems. This follows on from the constantly increasing need for interlinked information and exchange of know-how, even beyond corporate boundaries.

It is particularly important for the illustration of processes to be suited to Internet usage.

"The successful realisation of e-Supply Chain Management requires a series of constraints to be negotiated and a high degree of preparation, in order to create the necessary fundamentals within the company. Thus, all e-supply chain partners should mutually coordinate their organizational structures, processes and information technologies. This often requires reconfiguration of business processes and harmonization with all partners, removal of mental barriers and expansion of existing structures.

As a result, e-Supply Chain Management requires a series of operational conditions to be created within the company" (see Wannenwetsch/Nicolai, 2002, p. 12).

1.1.5. Cost Reduction via Outsourcing

The outsourcing of logistical tasks and functions to external service providers is a suitable instrument for varying and reducing logistical costs while simultaneously exploiting external logistic know-how. It is this dynamic development of the range of competent logistics service providers, which are increasingly developing ever more complex, high-quality and, by direct comparison, less expensive logistic solutions in overall terms, that contributes to the efficient handling of logistical processes within trade and industry.

The share of logistical tasks outsourced to external service providers is stabilising at a high level and has reached as much as half the total logistic costs in the consumer goods industry. Further increases are expected in trading and the consumer goods industry in future. Consideration shall be given, in automotive supply chains, to the fact that a considerable share of logistic services is provided in and from the supplier network. (see Wallenburg, 2004, p. 46 and 47).

1.1.6. Globalisation of Production and Business Relations

In the course of twenty years the opportunities for worldwide trading have increased dramatically:

- On the one hand there are the previous political, ideological and excise borders between countries, in particular the "Iron Curtain" and the breakdown of socialist world-order, the progress of European integration, but also other regions of the world e.g. South America and North America and the Pacific hemisphere. And finally the world-wide efforts to reduce trade barriers by world-wide trading agreements i.e. the general world-wide customs and trading agreement (GATT) and the organisation for economic cooperation and development (OECD) are advancing slowly but continuously.

- On the other hand, progress made in information and communications technology since the 1990s, most prominently the "networking" of the world to the most distant corner (see Scheffler/Voigt, 2000), but also the development of world-wide acceptable factual standards like Windows-based PC-Systems, EDIFACT, EAN (bar)coding in communications, have all contributed to reduce cost and time when looking for business partners. Additionally the daily processing of sized business transactions has become more feasible than it was in the 1980s. These efforts are complemented by an increasing standardisation, even in packaging and containers, by the International Organization for Standardization (ISO). Last but not least the increasing use of the English language as a "world language for business" has contributed to remove former barriers of worldwide communication. In the interpretation of economists has this effected a continual reduction of transaction costs in the global economy.

- For industry and trade companies it has become more interesting to spread further the networks of suppliers and customers-across the entire globe.

They have been enabled to recruit staff, obtain the materials and the know-how and framework conditions to support their activities in those countries and regions of the world that offer the most feasible price/performance ratio. As you

can see in Fig. 2. in the comparison of actual labour cost per hour, there are more companies going this way more frequently. The transactions costs for moving net product events (in logistic speak "dislocation") are nowadays less of a barrier for international business cooperation than it used to be in times, when high customs tariffs, complicated document processing and high and unreliable communications and transport costs and processing times ruled the day.

However, globalisation comes with effects less appreciated by companies:

It has created a yet not fully recognised increased worldwide competition. Companies cannot just find new customers and suppliers in any part of the world and enjoy those advantages, they also have to suffer that new competitors from all over the worlds appear in any part of the world. Competitors that often can provide the cost advantage of their home countries. The traffic of goods and communication is happening between all continents and countries.

The developments labelled as "globalisation" require continually more global transport services, the integration of warehousing, turnover, communication, planning and control services in many stages, complex "supply chains" and networks. At the same time pressure increases on companies to optimise the quality and cost of their services. Logistics, as it becomes apparent, will become one of the most important levers in the survival and success of companies in global competition (see Klaus/Kille, 2006, p. 19-21).

1.2. Market Strategies in Trade and Industry

1.2.1. Cost and Service-oriented Competition Strategy in Trade

The situation in trading is largely characterised by changed customer requirements and increased competition between all market participants. The huge competitive pressure on companies, regardless of the size of the enterprise, is the result of falling customer loyalty on the one hand, and growing demand from customers for individual products and services on the other hand. This development is revealed in ever-stronger diversification of trading platforms. In addition to the tried and tested trading platforms, new trading concepts have also been established, which allow for changed customer requirements. Discounters for example are exploiting the constantly increased price awareness of customers in recent years and extending their market share by consistently pursuing a cost-based competition strategy. Efficient logistics thus constitutes an essential precondition for the assumption of price leadership. In view of the high share of logistic costs in trading the largest saving potential is revealed here.

By pursuing a service-based strategy, trading companies are focussed on increasing consumers based on additional services. The greatest challenge here, apart from realising service-based logistical fulfilment in the provision of high-quality products, lies in providing skilled personnel and intensive communications with consumers.

The opportunity exists here to increase customers through product, service and logistical provision clearly above and beyond actual product usage. Mail order trading for example offers customers the opportunity of conveniently buying a wide range of products, based on detailed product catalogues. In this regard the physical distribution of goods to the end customer is conducted through internal

delivery services or the involvement of logistics service providers (see Baumgarten/Thoms, 2003, p. 16).

Stationary and multifunctional trading platforms - so-called convenience shops, such as petrol stations or railway stores - are an expression of a service-based competition strategy.

1.2.2. Marketing-Oriented Competition Strategy in the Consumer Goods Industry

Strategic approaches of the consumer goods industry are directed in particular at marketing and goods presentation. At present, efficient product introduction and efficient assortment form the most important manufacturer's instruments because they allow for optimal placement of internal products in trading branches and construct barriers against competitors. At the same time the consumer goods industry is distinguished by trading on an exchange of information with regard to future needs and customer data. The development and usage of joint planning and forecasting instruments, such as collaborative forecasting and collaborative business planning therefore becomes increasingly important. This is equally true of trading, which aspires to system leadership of the logistic chain and is reliant on secure and stable supplier relations with the consumer goods industry for control of the entire supply chain (see Baumgarten/Thoms, 2003, p. 16).

1.2.3. Potential for Conflict between Trade and Industry

Mutual conflicts of interest and goals are regarded as the biggest problem within any cooperative association. One essential cause of this can be found in trading interest in the optimal design of its total range, which mostly consists of goods from various different manufacturers, while the producer exclusively targets the listing of its products.

In future moreover, trading units are pursuing a plan to exercise increased influence, in the course of integration efforts, on the level of added value shifted onto them - the consumer goods industry. In particular large traders already hold a strong market position and will use this market position intensively to exert a huge influence on producers.

Large trading enterprises in particular are anxious these days to extend their value added share into logistics through reverse integration. The goal is to take on logistic leadership, i.e. the planning and control of the overall logistic goods process chain.

However, they come across the resistance of manufacturers in the process, which for their part are concerned to optimise their distribution logistics through their own bundling concepts. By virtue of its dominance in respect of information, trading has a better starting position in principle than does the manufacturer here. Manufacturers and traders have realised however that internal company objectives can only be achieved by optimising the entire value added chain. Fixed and sustainable cooperative relationships between the consumer goods industry and trading are increasingly gaining in significance in this regard, since logistical processes are thereby easier to plan and control, and the flexibility and responsiveness of those involved increases. The essential strategic concepts here are efficient consumer response (ECR) and increasingly collaborative planning, forecasting and replenishment (CPFR), the targeted use

of which leads to a reversal of goods supply from the push principle to the pull principle (see Baumgarten/Thoms, 2003, p. 18).

1.2.4. Design of Cooperative Relationships

Close collaboration and fixed cooperative relations between trading and the consumer goods industry assume that joint measures and operations are carried out. In addition to creating a standardised technical infrastructure, organisational measures come under the scope of coordination of the entire logistical network. The formation of common project groups supports the development of a relevant culture of cooperation in this respect. This creates trust and thus the basis for mutual exchange of information.

Given that, due to enhanced cooperation, information exchange no longer relates only to data on billing, items and orders, but that comprehensive planning tasks also have to be jointly administered, accurate knowledge is required of past and current sales in order to ensure an effective supply of goods or deduce needs for future sales campaigns. On the basis of defined standards and uniform exchange formats the necessary information can be transmitted between companies. For the manufacturer, access to customer data from trading constitutes a precondition for an improved sales structure. In this way it gains an overview of which products are sold in trading and to what extent.

With the increasing spread of the Internet, portals, platforms or market places are now being used to exchange data and control the supply chain. In addition to traders and manufacturers, a large number of other cooperating partners and the customer can easily be integrated in respect of information. Data exchange in these systems is based on the option of permanent access to the information

provided for all partners involved, and thereby enhances the transparency of stocks and flows of goods.

In the framework of cooperation between trading and the consumer goods industry, the requirements for secure and efficient information systems are increasing. In this regard the creation of joint data standards and resolving interfaces are considered the most important tasks to be dealt with.

Moreover, manufacturers and traders have realised that internal business objectives can only be achieved through optimisation of the entire value added chain. Fixed and lasting cooperative relations between the consumer goods industry and trading are increasingly gaining significance, since logistic processes can thereby be planned and controlled more easily, and the flexibility and responsiveness of those involved increases.

In assuming the role of category captain the industry is attempting to exert considerable influence on the design of the range of supply for trading. Future growth in importance in strategy areas relevant to marketing is supported by attempts to take on market leadership. At the same time the consumer goods industry is reliant on exchange of information through trading, with regard to future needs and customer data.

The development and usage of joint planning and forecasting instruments, such as collaborative forecasting and collaborative business planning is therefore becoming increasingly important. This relates equally to trading, which aspires to system leadership of the logistic chain and is reliant on secure and stable supplier relations with the consumer goods industry for control of the entire supply chain. Trading therefore pursues strategies that guarantee continual supply to its branches on the basis of a current or forecast consumer demand. Against this background the concept of efficient replenishment continues to gain importance.

Trading pursues essential strategies, which guarantee the removal of unnecessary stocks and a permanent supply of all branches. It is therefore reliant on cooperation with the consumer goods industry. Manufacturers exploit this opportunity to design their trading range to their advantage in the long term (see Baumgarten, 2002, p. 56 and 57).

1.3. Formation and Control of Inter-company Logistic Chains

1.3.1. Range of Logistical Services

The range of logistic services has considerably expanded in the last 20 years through constantly increasing intensity of competition. There is interaction between the scope of logistics tasks and the range of services provided by logistics service providers. On the one hand logistical services, in the form of derived demand, are strongly dependent on developments in trade and industry. On the other hand logistics service providers, by means of expansion of their service portfolio, have an influence on the understanding of logistics and thereby induce a potential for tasks and functions to be outsourced in trade and industry.

In accordance with the various requirements of trade and industry in respect of the depth and width of demanded services, various types of specialised logistic service companies have positioned themselves on the market.

These are primarily differentiated in their direction with regard to the character and focus of service provision.

An unambiguous assignment is difficult to design by virtue of the variety of services and non-standard application of concepts.

The large range of logistic services includes both classical logistics service providers, such as carriers, shippers, airfreight and CEP (courier, express and parcels) providers, which cover the entire spectrum of transport carriers, as well as logistic consultants, software developers and information technology (IT) service providers.

In many areas of core logistic tasks a high standard has already been achieved with outsourcing, such that standard operational tasks will only be outsourced more selectively to logistics service providers in future. On the other hand growing potential is constituted by high-ranking, individualised and complex logistic services. These include transport planning, route planning and optimisation, and IT services, such as logistic and software development for supply chain management and planning and implementation of information systems.

The most complex and at the same time most up-to-date potential task area for logistics service providers is the control of inter-company supply and distribution networks. In this regard an individual customer no longer appears as recipient of the service, but rather entire supply chains and networks are linked into the network of relationships. The willingness to allocate control of value added chains and networks to an external service provider however have not yet been restrained in other sections of trade and industry.

Large industrial and trading companies in particular have little doubt about internal supremacy and expertise. Nevertheless, an increasing number of logistics service providers as controllers of entire supply chains for the future in completely direct competition with present coordinators within the value added chain.

A lot of undertakings in the logistic service branch are planning outsourcing of their service focus from operative through to administrative, and from intra-company through to inter-company services (see Baumgarten/Kasiske/Zadek/ 2002, p. 33).

1.3.2. Networking of Value-adding Partners

The increasing share of inter-company services in the service portfolio of a logistic company sheds light on the increasing networking of value added partners. No longer does an individual customer appear as recipient of a service, but rather entire supply chains and networks are involved in the relationship network.

Even for logistics service providers with a strong focus on operational functions, a relevant share of inter-company tasks are assigned. If such a commitment exists, the customer share amounts to almost one third.

Full-service providers primarily perform their inter-company services in the contract-logistics business. On the one hand, potential has not yet been exhausted here, and on the other hand such provision is restricted to a low number of key account customers, which is expressed in the relatively low customer share in this area. The building of such relations requires high investments in infrastructure and IT systems as well as advance provision for coordination and unification of logistic chains.

In the field of contract logistics, logistics service providers with a focus on operational tasks are frequently involved as sub-providers. The high customer share in inter-company services is therefore justifiable in the company group.

Companies with an administrative focus show a high level of suitability to inter-company tasks. This follows from the specific characteristic of the tasks. By way of example IT integration or strategic network planning can be mentioned as overwhelmingly inter-company tasks.

But also in this area there are a large number of companies, which continue to perform corporate-based services. These include providers of ERP system solutions for example.

With the implementation of comprehensive value added chain logistic solutions, the supply and demand for suitable inter-company logistic services increase. In particular full-service providers already perform services today over several added value stages (see Binner, 2003, p. 289-291).

1.3.3. Control Mechanisms

In relation to the coordination and control of inter-company value added chains, service areas can be identified, which on the one hand originally result from comprehensive control, such as supply chain planning, business and comprehensive tasks. On the other hand, task areas emerge as a requirement from experiences in implementing supply chain management concepts, such as personnel training courses aimed at creating a basic understanding, and at conveying soft skills for inter-company cooperative trading.

In particular storage and inventory management, which results directly from the target systems of users of SCM, is awarded the highest priority. This is closely related to the creation of transparency in pursuing the status and distribution of orders in the supply chain. The provision of adequate IT infrastructure is necessary and helpful.

The different alignment of service providers is also shown very clearly in the weighting given to planning tasks associated with control. While providers with an administrative focus ascribe the greatest importance to strategic planning, such as network planning, service providers with an operational focus tend to highlight in particular the control of physical transport within their business area.

This aspect may also be called upon in order to interpret the differences of assessment in the area of comprehensive tasks (see Baumgarten/Thoms, 2003, p. 19).

There is a clear discrepancy between value added partners in respect of the valuation of the management task in control of the supply chain (see Figure 1.4.):

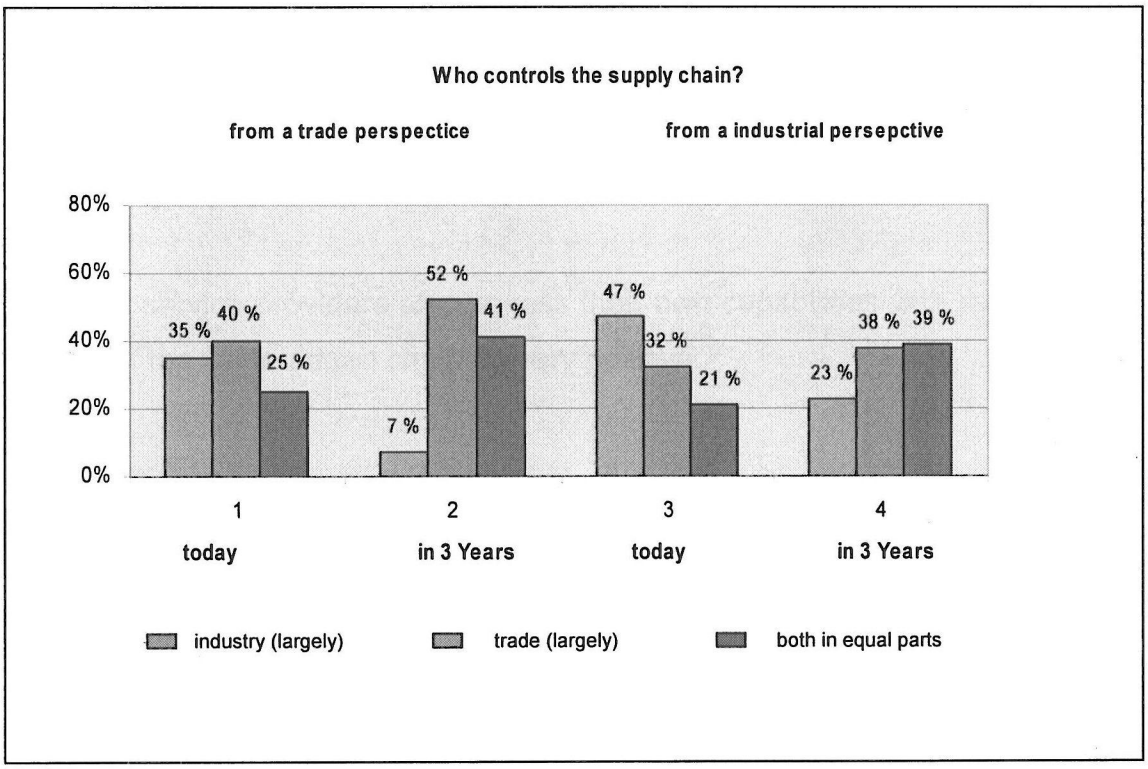


Figure 1.4. Who controls the supply chain? (see SCM in the consumer goods sector - a study by *Food Journal* and Miebach Logistics, 2004, p. 21)

Industry has no doubt about its own supremacy. As far as industry is concerned, the control task should be directed at the enterprise in focus. An internal company service provider, in its view, might constitute at best a future alternative.

Trading on the other hand does not have any dominant internal view and already tends to regard the logistics service provider in its future controlling role. In order not to completely hand over supremacy in coordination and control to external sources, trading prefers organisational establishment openly within the company group.

The increase in significance of the internal role reflects the view of the service providers that due to the necessary neutrality of an external third party these tasks should be transferred. Given that both trade and industry - in this case via service providers within the company group - continue to be attracted to the control role, logistics service providers primarily see a joint venture as an opportunity to participate.

Logistics service providers also assess their own capabilities with regard to the control of the value added chain as very positive.

1.3.4. Integration trough Fourth Party Logistics Service Provider

Fourth Party Logistics Service Providers (4PL), within the context of inter-company control, may perform services for partners in the supply chain under various company types.

The concentration on core skills and the sustainable trend for outsourcing leads to increased fragmentation of the value added chain. Supply chain management facilitates the efficient control of such a fragmented value added chain - in particular through the use of adequate information and communications systems.

This inter-company process chain management brings us to the question of who is entitled to administer control tasks in the supply chain. If this is conceived as a service for partners in the supply chain, the approach of the Fourth Party logistics service provider or system integrator may be employed as controller.

This occurs in support and extension of the third party logistics service provider (3PL), which performs the optimal linking of service provision from the internal company with that of strategic partners and subcontractors, and acts as a full service provider.

The objective of control of a supply chain is the collaborative coordination and synchronisation of activities between participants in the value added network.

Thus the field of operations for a 4 PL includes optimisation of logistic processes, such as flows of transport and information by the targeted incorporation of 3PLs and IT service providers, but also tasks of inventory control and batch size adjustment. These extend into the direct production planning of supply chain partners and thereby far exceed the range of tasks for classical logistics provision companies.

Figure 1.5. shows integrative requirements and opportunities for the 4 PL concepts:

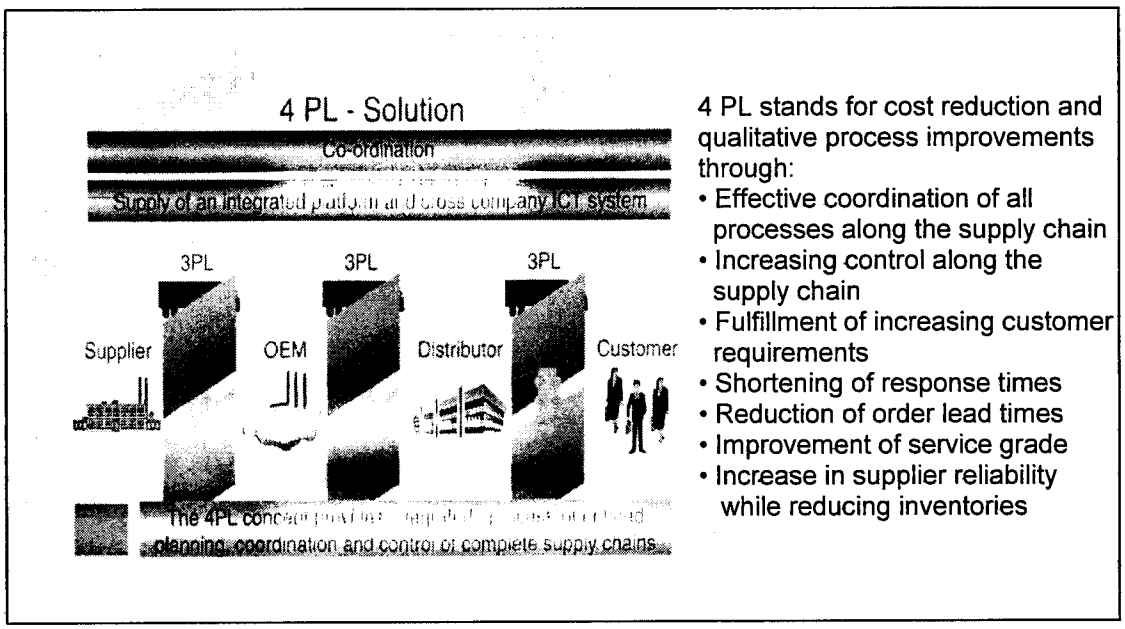


Figure 1.5. Inter-company integration along the supply chain (see Kuhn, 2003, p. 202)

Conditions for this are a sufficient mastery of information and communications technology to perform the integration of various services, and a detailed knowledge of the sector, in order to allow for its individual characteristics.

The optimisation of activities by complex supply and logistic structures assumes distinct transparency with regard to company-specific and partially sensitive control data about the external service provider. In addition to the as yet unresolved issue of a suitable cost benefit sharing, this also represents an essential cause of the still observable scepticism and reservation of industry (see Baumgarten/Kasiske/Zadek, 2002, p. 27-40).

1.4. Supply Chain Management as a "Modified" Environment for the Middle-Sized Logistics Service Provider

1.4.1. Definition and General Principles

As it was analyzed in the previous chapters, Supply Chain Management represents a high quality development level in logistics. Its importance appeared in the middle of the 90-ies, and raised a cunami-like swell in global logistics literature. There are many different views and definitions of this in the literature. Table 1.2. provides (just a selected) overview:

Year	Author	Definition
1997	Bowersox	„Supply Chain Management is a collaborative-based strategy to link cross-enterprise business operations to achieve a shared vision of market opportunity"(Bowersox 1997, S. 181)
1996	Bowersox, Closs	„The basic notion of supply chain management is grounded on the belief that efficiency can be improved by sharing information and by joint planning ... an overall supply chain focusing 00 integrated management of all logistical operations from original supplier procurement to final consumer acceptance" (Bowersox/Closs1996, S. 4)
1994	Christopher	Supply Chain Management covers the flow of goods from supplier through manufacturing and distribution chains to the end user" (Christopher 1994, S. 22)
1997	Cooper, Lambert, Pagh	„The integration of all key business processes across the supply chain is what we are calling supply chain management" (Cooper/Lambert/Pagh 1997, S. 2)
1999	Handfield/Nichols Simchi-Levi,	Supply Chain Management as Management of „all activities associated with the flow and transformation of goods from raw materials stage ... through the end user, as well as the associated information flows" (Handfield/Nichols 1999, S. 2).
2000	Kaminsky, Simchi-Levi	„Supply Chain Management is a set of approaches utilized to efficiently integrate suppliers, manufactures, warehouses, and stores, so that merchandise is produced and distributed at the right quantities, to die right locations, and at die right time, in order to minimize system wide costs while satisfying service level requirements" (Simchi-Levi et al. 2000, S. 1). „Supply chain management spans die entire enterprise and beyond, encompassing suppliers on one end, and customers on die other" (Simchi-Levi et. am. 2000, S. 221).

Table 1.2. Interpretations of supply chain management (see Göpfert, 2006, p. 63)

The author is not going to create an own definition but will follow the SCM-definition of Kaminsky, Simchi-Levi, because this definition stays more in line with the "reality" of the research done and his also his experiences.

The relevant processes are coordinated along the value-added chain in close cooperation between suppliers and producers. This includes planning and design of functions and associated regulations, as well as comprehensive controlling.

Cash flows and profit margins are also necessary contents of supply chain management.

The preoccupation with supply chain management is already highly advanced in many industrial enterprises today. To some extent disillusionment has set in here in respect of the achievability of very ambitiously set targets. The complexity of inter-company processes and their IT mapping, the considerable costs of launching the fundamental software tool and the interconnection of various business cultures are indicated as the most important constraints on implementation.

It is clear that the successful implementation of supply chain management requires a whole series of carefully developed preparatory measures, which, if disregarded, results in the almost inevitable failure of the project. Such measures relate to developing an understanding of SCM and firmly establishing SCM in an internal company, as well as the relationship with partners in the supply chain. The successful implementation of Supply Chain Management continues to require the employment of sector and company-specific concepts. Nevertheless, there are some centralized principles of a general character (see Figure 1.6.):

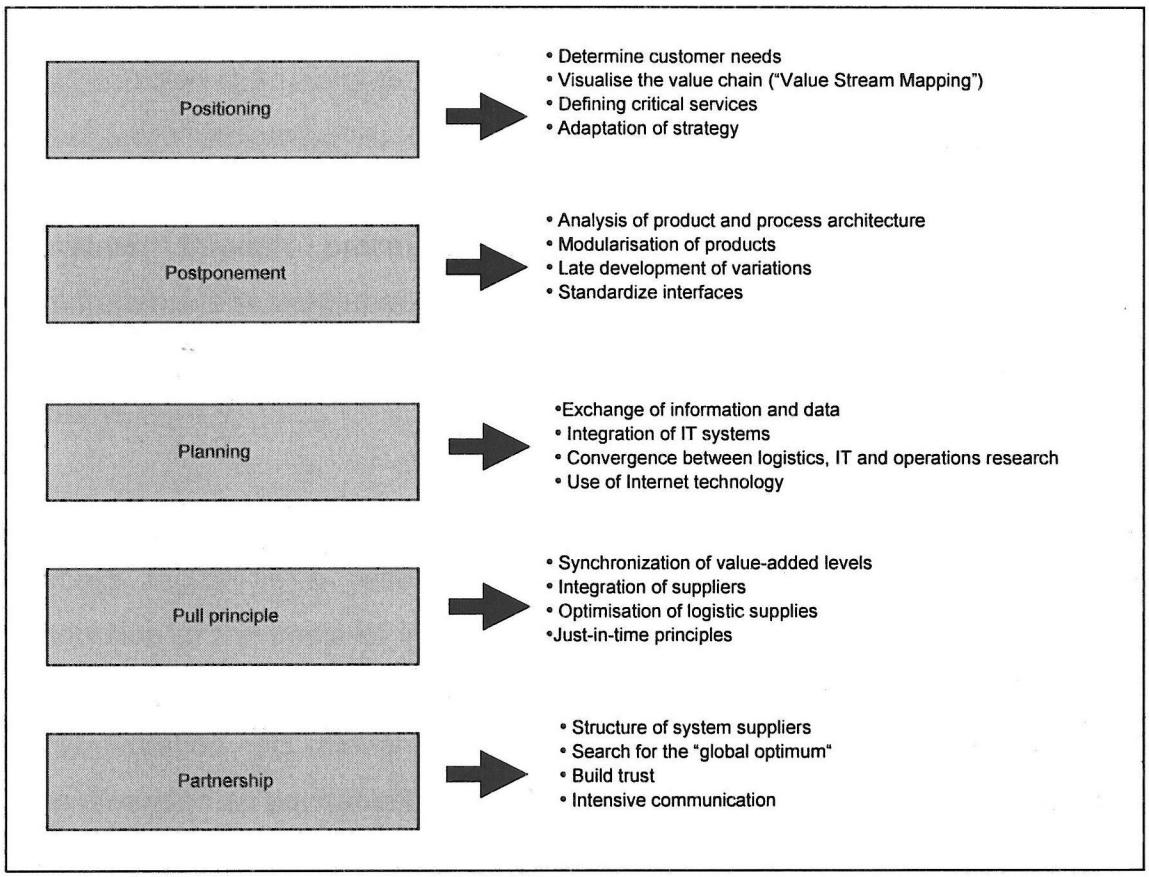


Figure 1.6. General principles in supply chain management (see Corsten/Gabriel, 2004, p. 11)

In this regard the logistics service provider stumbles upon its crucial role. It has to combine internal capacity with a coordinating function between partners, which finds its outlet in the consistent application of customer orientation, and results in customer relationship management.

Furthermore, it is imperative to design the costs and profits of implementing SCM transparently for all participants, with the aid of suitable controlling instruments. By means of this condition and the internal motivation and strategic establishment of SCM within the company, a continuous implementation of the SCM concept, i.e. the integration of customers, suppliers and logistics service providers can be achieved.

1.4.2. Collaboration Management

From integration across the supply chain of suppliers and logistics service providers, through processes and IT systems, the need arises for comprehensive management of active and partnership-style cooperation on the supplier level, by way of supplement to the processes managed by SCM systems.

This concept, known as collaboration management, developed into a critical success factor as a result of the complexity of supplier networks. The distribution of the costs of introducing an SCM system and realistic savings in the supply chain is necessary here. This requires the development and implementation of relevant models for cost benefit sharing, which are recommended as equitable by all partners, in order to allow for the integration of economically weaker partners in SCM projects.

The potential of SCM can only be fully tapped if the present predominant optimisation of individual companies gives way to optimisation of the entire supply chain, with the focus on the customer. An essential precondition for this is the integration of all possible companies participating in a supply chain, both producers and increasingly logistics service providers, in planning, management and control processes.

As a consequence, individuals involved in activities are increasingly gaining in importance, since, even in the age of modern IT systems, it is people who have to act upon and negotiate bottleneck situations with one another. Therefore, collaboration management generates new tasks and requirements for people involved in SCM, where the importance of the "human factor" increases with the success of SCM. The resultant structural innovations and requirements mean, in the context of management of inter-company cooperation that a market is developing for logistics service providers with integrative service portfolio, which

undertake collaboration management continuously and comprehensively (see Baumgarten/Beyer/Stommel, 2004, p. 64-66).

1.4.3. Organizational Involvement and Responsibility

By virtue of the initial achievements SCM is continuing to gain significance today within the world of logistical thought for innovative enterprises. The majority of industrial undertakings value the importance of SCM in increasing competitiveness as high or very high.

SCM, in terms of content, is slowly breaking away from its characteristic IT orientation and establishing itself as a concept within logistics, through the focussed incorporation of integrated logistics service providers.

SCM, by virtue of realisable potential, has a high level of strategic relevance for industry. Nevertheless, when implementing a concept, the issue of organisational integration of activities into existing structures of the company and assignment of decision-making powers should not be underestimated.

In practice coordination of a supply chain is difficult to develop as a result of established market relationships in networks with a predominantly hierarchical organization. The management of a value added chain must ensure interaction with a number of multiple integrated and interlinked units. This results in new requirements for employees with regard to process-oriented mindsets and integrative behavioural patterns, which must be firmly established both on the level of employees in contact with customers and suppliers, and within management. The positioning and classification of supply chain management therefore require a considerable commitment both from the individual himself and from senior management.

Supply chain responsibility, by virtue of the acknowledged importance of SCM in corporate success, is already firmly established at board and divisional level at a large number of enterprises today, and will be further consolidated in such leading positions (see Pfohl, 2002, p. 176-178).

1.4.4. The Economic Potential of Supply Chain Management

Sustainable competitive advantages can be attained through SCM. These are produced, inter alia, through the opportunity for participating partners to concentrate on their core skills, the reduction of market risks through an efficient coordination of the supply chain, and a continuous flow of information (e.g. for production planning). The consistent alignment of business processes to the customer and its wishes allows for an increase in customer satisfaction and for the provision of an optimal service to the customer. In addition, the harmonised implementation and planning of the supply chain leads to improvement in both quality and service provision. As a result, the confidence of customers in the efficiency of the supply chain has recently increased. Based on a current inter-company database, precise delivery date statements can be made, and the company's willingness to inform is improved. Furthermore, integrated coordination allows for a shortening of cycle and delivery times and an improvement in adherence to delivery deadlines.

Moreover, SCM serves to accelerate innovation processes through close inter-company cooperation and to open up new sales markets through additional presence on the Internet or on electronic market places.

By virtue of optimised and IT-supported needs projections and a permanent exchange of information on needs capacities and bottleneck situations, SCM systems create transparency about quantities, inventory and sales situations, and remove information deficits. On this basis, stocks can be considerably

reduced and the productivity of material management improved. SCM offers the opportunity of managing stocks efficiently and on a needs basis in the entire supplier chain.

Increased cost-effectiveness in stock-keeping can be attributed on the one hand to the low bullwhip effect in the supply chain and on the other hand to the fact that stocks can often be replaced by information. Alongside the reduction in stocks, the abovementioned increase in forecasting and planning precision may lead to optimisation of batch size and facilitate made-to-order production. Needs-based production and storage is related in no small way to a reduction in committed capital.

Just as new sales markets are unlocked through the use of information technologies within the framework of SCM on the customer side, existing market boundaries in procurement are also opening up on the supplier side.

Access to new sources of procurement may therefore lead to an undertaking covering its standard needs through e-procurement. As a consequence of streamlining the procurement process, fewer resources are now required for forecasting and planning.

The efficient coordination of intra- and inter-organisational processes with their potential advantages may therefore bring about a considerable reduction in both production and logistics costs throughout the entire supply chain (see Beckmann, 2004, p. 14 and 15).

The fact that SCM has considerable overall potential is shown by the results of successful examples in practice (which are not scientifically proven, nevertheless which have been appeared in German practitioners' magazines, stated usually company executives):

- Improvement of forecasting accuracy by 25% to 80%

- Stock decreases through reduced minimum inventory levels, virtual stocks and inventory sharing in a magnitude of up to 60%

- Reduction of cycle times through agreed process costs in a magnitude of 50%

- Increase in customer satisfaction through greater adherence to delivery deadlines by 5% or more, and an improvement in supplier capacity by 25% to 50%

- Cost reduction potential related to individual supply chains in a range of between 3% and 24% (average value approx. 10%)

- Profit increases by up to 30% through optimization of the common value added chain, and

- Increase in turnover and market shares in the range of up to 55% due to more responsive systems and improved customer involvement (electronic commerce).

Systemising the potential for success of SCM due to the target system of integral management, the result for the supply chain management as an initial framework of orientation to define goals of cooperation within the supply chain, where decision-making within the life of the cooperation (e.g. definition of co operational areas, partner selection etc.) will be arranged.

Table 1.3. shows the potential for success within a possible framework for exploitation, extending to the normative, strategic und operative level, and assigns potential to reverence Figures:

Level	Reference value	Cooperation potential
Normative	Development	Higher-quality development Improvement of level of performance Adjustment capability New prospects/impetus Opening of borders/structural interruptions Organisational learning (learning to learn) Maintaining corporate identity
Strategic	Development of new potential success Exploitation of potential admitted success	Advantages of differentiation - brands - product technology - marketing skills - distribution skills - service skills - greater market presence - supplementing and combining product mixes Reducing barriers to entry - patents and brands - markets - know-how - overcoming critical threshold values Time benefits - shorter product/development cycles - reduced response time - run-through times - development times Cost leadership Growth strategies
Operative	Success liquidity	Profit benefit through: - faster market opening - economies of scope Cost benefits through: - short feedback loops /process synchronisation - process technology / technology specialisation - production capacity - access to resources Personnel Technology Finances - economies of scale - synergies/avoiding duplication of work Risk minimisation Learning effects

Table 1.3. Potential for success of SCM (see Beckmann, 2004, p. 17)

In order to unlock the demonstrated potential, considerable investments should be conducted, particularly in the software area. In addition, internal and external transaction costs should be allowed for. In the course of implementation, costs should therefore be precisely weighed against benefit.

Naturally resources of SCM implementation must be available in order to take the chance. Respondent's perceptions of facilitators and barriers to SCM implementation are reported in Table 1.4. and Table 1.5. respectively.

These facilitators and barriers were derived from the literature, e.g. Mentzer, Foggin and Golicic 2000, (see Larson/Poist/Halldorsson, 2007).

The impact of each barrier and facilitator was rated on a measurement scale from 0 (none) to 5 (very high).

Facilitator	**Mean**
Top management support	3,85
Customer relationships	3,47
Organizational re-structuring	3,41
Integrated Logistics Management	3,26
Electronic data interchange (EDI)	3,13
Internet technology	3,11
Employee training	3,05
Enterprise resource planning (ERP)	2,95
Hardware (computer equipment)	2,81
Supply chain software	2,72
Supplier involvement	2,65
Third-party logistics (3PL) providers	2,43
Consultants	2,11
Fourth-party logistics (4PL) firms	1,79

Table 1.4. SCM Implementation facilitators

Four of these facilitators received average ratings statistically significant above 3, the test level. All of them are about relationships within the organization or with its customers.

The next five are technological facilitators and have a significant impact on SCM implementation. It is also striking that the significantly low impact facilitators are about relationships with suppliers of goods and services (e.g. logistics and consulting).

Barrier	Mean
Functional silos	3,76
Incompatible technology/systems	3,51
Lack of a common SCM perspective	3,25
Conflict among supply chain members	3,23
Inadequate employee skills	3,19
Complexity of SCM	3,17
Organizational structure	3,17
Internal resistance	3,09
Cost of implementation	2,98
Lack of electronic connectivity	2,60
Unwillingness to share information	2,50
Customer resistance	2,07
Supplier resistance	1,86

Table 1.5. SCM Implementation barriers

Table 1.5. reports average ratings of barriers to SCM implementation. The five barriers above 3, the test level, support theoretical discussions in the SCM literature e.g. Lambert/Cooper/Pagh, 1998 on functional silos, Larson and Halldorsson, 2004 on SCM perspectives, Know and Shu, 2004 on conflict in the supply chain, and Gammelgaard and Larson, 2001 on skills for SCM. Complexity, cost, organizational structure, and internal resistance were not significantly different from the test level. It is interesting that supplier resistance and customer resistance were the two barriers rated as having the least impact on SCM implementation.

Chapter (2)

The Role of the Medium Sized Logistics Service Provider within the Supply Chain

2.1. Opportunities and Risks in Supply Chain Management

The concept of supply chain management (SCM) is receiving ever-increasing attention in nearly all branches of the economy. Views on the significance and implications of the concept vary here, depending on the observer, and no uniform and universally effective definition has yet been recognized.

In any event, there is agreement on the fact that logistics is of particular importance for the sustained success of SCM. However, logistics has not only been in existence since the emergence of SCM, but is more of an evolved function, without which any trading and thereby exchange of goods would have been impossible.

It is therefore important to show the impacts that SCM will have on logistics, the interrelationship between them and the changes this will imply for the provider of logistic services. The concept of SCM must be introduced in order to move away from slogans that are sometimes vacuous, and towards a detailed understanding of the contexts.

Driven by SCM the logistic needs of companies are continually developing. This produces new requirements for large or medium logistics service providers, to which they have to respond with innovative service provision. Systemizing these requirements, and thereby understanding the demand (that is subject to change), and deducing new service bundles from this is a central point for achieving successful SCM (see Deepen, 2003, p. 116).

But companies do not want to create all logistics services, which will be of particular importance in future, in-house. The outsourcing of services and tasks is becoming increasingly important.

However, completely internal legitimacy, which depends on a large number of influencing factors, is being pursued.

As a synthesis of systemised logistical services and an integrated outsourcing approach, a service portfolio can then be derived, which reflects future market demand. At the same time this constitutes the optimal supply portfolio for logistics service providers, as a response to demand altered by SCM (see Deepen, 2003, p. 116 and 117).

The application of SCM is however characterized by a high level of complexity, e.g. diversity of

a.) suppliers,
b.) materials,
c.) products,
d.) customers, and
e.) networking

thereof. Moreover, SCM projects are under great pressure to achieve success based on their high importance for competitiveness, but also through anticipated potential. These are general conditions, which may endanger a successful implementation of the SCM concept if the diversely networked correlations cannot be mastered within the project and within the factors influencing design, steering and development of the supply chain.

The followings shall therefore be considered as essential risk factors of SCM:

Normative aspects

- different business cultures
- different self-awareness of participating companies
- absence of communal vision
- lack of trust between partners

Strategic aspects

- incompatible objectives and motives
- unclear definition of service depths

Operational aspects

- communication difficulties at interfaces
- different quality standards for partners
- different productivity of partners
- opportunism of partners
- incompatible IT systems
- lack of up-to-date nature and availability of data

(see: modified/extended list by the author, based of Beckmann, 2004, p. 17 and 18)

Essentially the ability to cooperate is a key element in successfully implementing SCM.

Looking at the above mentioned risks we have to think about performance measures. However in many instances the desired performance measures are not provided by these systems. In the case of alternative process configurations, the values of performance measures are never available a priori as existing data. The possibility of exact calculations is limited by the complexity of the problem and estimation by experts is usually necessary (see Jammernegg/Reiner, 2007, p. 187).

2.2. Supply Chain Management Concepts

2.2.1. Collaborative Planning

Collaborative planning is the generic term for intensive partnership-style cooperation between companies, both on horizontal and vertical value added levels. As a first step here, confidence-building measures are required among the value added partners. For this purpose, self-image or external image analyses and information needs analyses are compiled. On the horizontal level the common use of resources, information or technologies to achieve synergies is an elementary component of collaborative planning. Joint planning is of fundamental importance to the concept of SCM in the vertical domain (see Beckmann, 2002, p. 179).

Collaboration goes far beyond cooperative behaviour and requires, in particular, a partnership-style planning process under the condition of exchange of defined data. Inter-company information and communications systems therefore constitute an essential platform for cooperation (see Werner, 2000, p. 47).

Within this framework the advanced planning and scheduling systems (APS systems) are accorded fundamental importance. Building on visualisation of the supply chain structure and current system performance, they facilitate a considerably improved and more effective response to changed market conditions through simultaneous planning of relevant dimensions over all supply chain processes, by allowing for altered market conditions and timely consideration for disturbances.

Companies currently ascribe considerable importance to the various APS software solutions and thereby clarify the increasingly stronger permeation of logistical concepts into modern information technology (see Emmermann, 2003, p. 313).

2.2.2. Supplier integration

Against the background of increasing customer requirements in respect of delivery times and flexibility, the necessity for more intensive cooperation between producers and their suppliers, which are sometimes global producers, is increasingly coming to the fore. The resultant supply and production networks and increasing procurement volumes, as well as the distribution of products to end customers, characterized by reduction and consolidation of storage levels, require targeted and efficient design and coordination of the supply chain. The emphasis here is on the integrated planning of production output for each level, based on customer requirements, within the context of supply chain synchronisation and ensuring the availability of required preliminary products in each case.

In order to maintain and improve competitiveness, further reductions in the share of internal production result from the increasing concentration on core activity. This decrease in production depth is followed by the building and

upgrading of development, production and in particular of procurement networks. The degree of cooperation among manufacturers and with their suppliers is therefore becoming increasingly important.

The long known just-in-time supply of production plants also forms part of a concept of supplier integration.

Just in time is a philosophy with the objective of making effective use of time, materials, labour and energy, with consideration for the customer's requirements, through planning, management and control of all material and information flows (see Wildemann, 2000, p. 75 ff.).

Supply chain integration is considered one of the major factors in improving performance. Over the past decade, on of the main themes in the supply chain management (SCM) literature has been the role of integration as a key factor in achieving improvements (eg. Tan et. al., 1999; Romano, 2003). Recent work (eg. Frohlich and Westbrook, 2001; Vickery et al., 2003; Childerhouse and Towill, 2003) has provided convincing empirical evidence for the relationship between integration and performance. However, a few years ago, Ho et al., 2002 raised some doubts with respect to the relationship between integration and performance in survey studies. (van der Vaart/van Donk, 2008, p. 42).

In addition some research was done on supplier diversity. Although purchasing trends are moving toward consolidation, a strong economic argument can be made for supplier diversity. If integrated into the overall corporate strategy, supplier diversity can become a source of competitive advantage for corporations. (see Adobor/Mc Mullen, 2007, p. 219-229).

In these respects, the enterprises have to include, thinking about SCM, alternatives in order to fulfil the overall goals. This means, in order to install SCM with high performance champions in inventory and capacity management knowing that also alternatives must be available.

2.2.3. Efficient Consumer Response for Logistics Service Providers

Efficient Consumer Response (ECR) is an integrated assessment of interfaces between manufacturers and trading, which are traditionally characterized by business egotism. The basis for this approach is formed by the quick-response concept, first employed in the textile sector, which converts requirements from there into a logistical replenishment concept, pursuant to short-term amendments to customer requirements and short product life cycles. ERC was initially extended to the area of foods and has now expanded into various fields of the consumer goods industry. Trading enterprises from Great Britain and the USA in particular are considered pioneers here.

At the heart of ECR is the objective of eliminating inefficiencies, in particular with regard to process times and costs along the supply chain, with specific consideration for customer requirements. At the same time, assortments, procurement of goods and inventory maintenance, advertising measures and product launches should be optimised between companies in order to reduce costs of the entire distribution system in a sustained way and to increase sales volumes (see Emmermann, 2003, p. 314). This means that both fundamental lines of attack are anticipated by ECR:

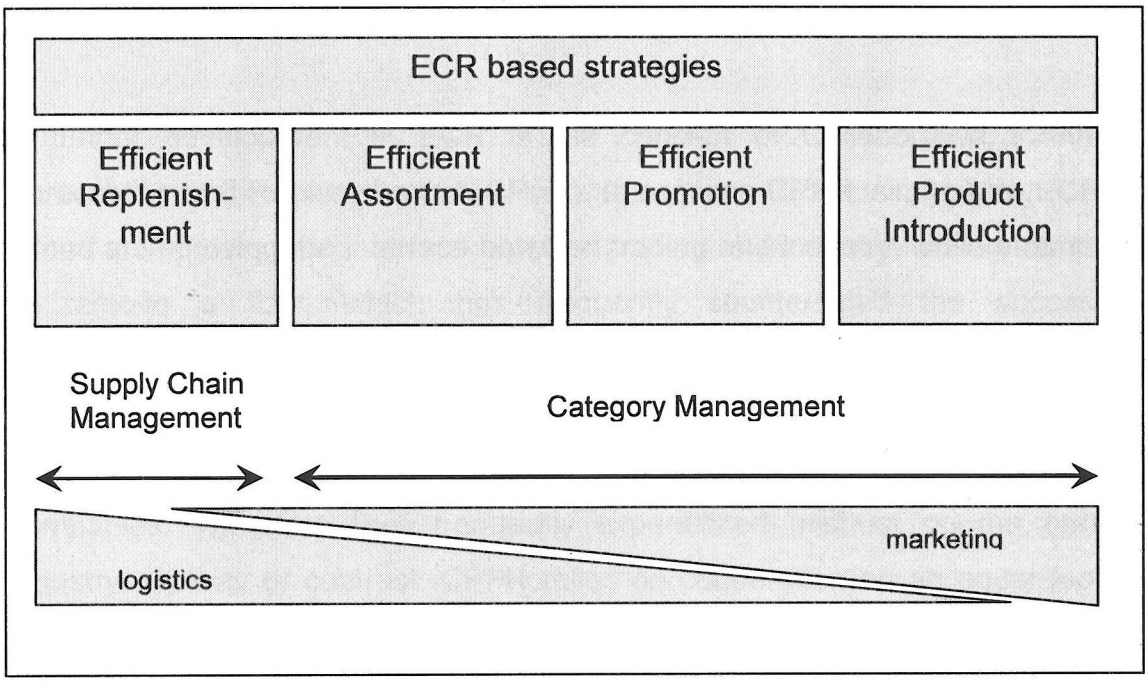


Figure 2.1. Classification of the four ECR basic strategies (see Mau, 2003, p. 26)

Efficient Replenishment - the optimised supply of goods - is aimed at minimising costs and lead-times on the supply side and thereby at linking real sales data, order and production Figures. The SCM philosophy is accommodated by moving away from the push to pull idea. Efficient Replenishment is one of the foremost ECR components from a logistical perspective.

Efficient Assortment, Efficient Promotion and Efficient Product Introduction on the other hand are directed at maximising sales, while the range and design of price and promotion are more strongly aligned to customer requirements and the presentation of goods is optimised. A core element in this process is the fact that revenue-related Figure s, such as sales recorded on tills with barcode scanners for trading, should be available to all participants. This means that an insufficient level of transparency and customer-centred replenishment supply has so far been generated (see Mau, 2003, p. 26).

2.2.4. Collaborative Planning, Forecasting and Replenishment

A further development in ECR is the concept of Collaborative Planning, Forecasting and Replenishment (CPFR). In essence CPFR, similarly to ECR, is aimed at improving the interface between trading and industry, while attempting to remove a flaw, which has frequently counteracted the successful implementation of ECR:

ECR concepts were, in the past, largely initiated and dominated by trading companies. Therefore they frequently experienced mistrust on the part of industry. By way of contrast, CPFR relies on cooperation on an equal footing between industry, trading and logistics service providers and thus serves as the core element in a communal information base. This does not only relate to the exchange of relevant data, but rather to improving data quality by virtue of the cooperative planning process. CPFR does not therefore constitute a new development, but rather an enhancement and refining of the concept of ECR, with consideration for modern IT systems, thereby interlocking the demand side of trading with the supply side of industry. A precondition for this is the development of uniform data formats and transfer and security standards (see Emmermann, 2003, p. 315).

A core element in this process is the common planning, forecasting and management of inventories on the basis of customer requirements. While the potential of ECR has never been completely developed, the rapid progress in the IT system environment, associated with an increasing willingness to cooperate between trading and industry, and with the involvement of logistics service providers, for the first time forms the precondition for unlocking the hoped for potential of CPFR.

Figure 2.2. Illustrates a CPFR control loop:

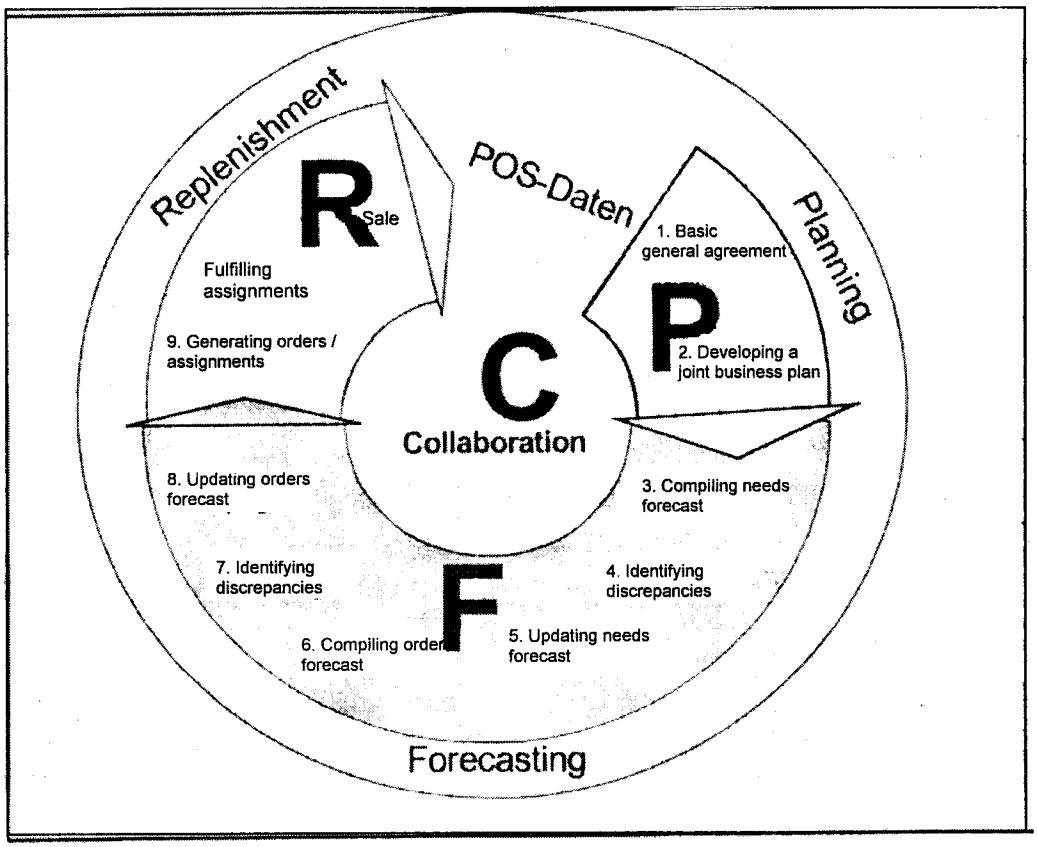


Figure 2.2. The CPFR control loop (see ECR Monitor, 2001)

Sales Figure s and experiences available to the various partners are thus consolidated and permanent access to actual and forecast sales Figure s is assured for all participants.

On this basis, consumer goods manufacturers are in a position to constantly compare targeted and actual values and thereby adjust production plans in good time. Moreover, capacities may also be compared. The advantage for trading lies in improved availability, without having to build increased storage inventories (see Baumgarten/Darkow, 2002, p. 25).

2.3. Challenges and Strategies for Logistics Service Providers

2.3.1. Impacts on the Service Portfolio

SCM concepts are usually driven and implemented by dominant partners within the supply chain, e.g. by the manufacturer in the automobile industry (O.E.M.), or by large trading chains in the area of fast moving consumer goods (FMCG). Often solely the interests of their own company are to the fore here, without any optimal solution being pursued throughout the value added chain. Neutral planning and control of the entire value added chain is however fundamental in order to achieve a comparable optimum over all value added levels and partners. A neutral integrator is required for this task. The logistic system integrator, the so-called fourth party logistics service provider (4PL), offers one possible solution. 4PLs are specialised in control of the supply chain and logistic planning and consulting for company networks.

They ensure the smooth running of the entire process chain and the IT link to all parties involved in the process without providing operative services. For operative services they use sub- providers with good service quality. Basically the sub-providers are in charge of executive functions.

Operative and coordinative logistic services are performed by third party logistics service providers (3PL). These system providers, which largely include sub-providers these days, have continually expanded their service portfolio to include the delivery of associated services. Their roots are in medium sized and large-scale freight shippers which increased their service portfolio in order to satisfy the needs of their customers (see Emmermann, 2003, p. 315 and 316).

The sector can be splitted in different ranges of logistics and different types of logistics service providers.

Figure 2.3. shows segmentation of logistics service providers in connection with the range of services:

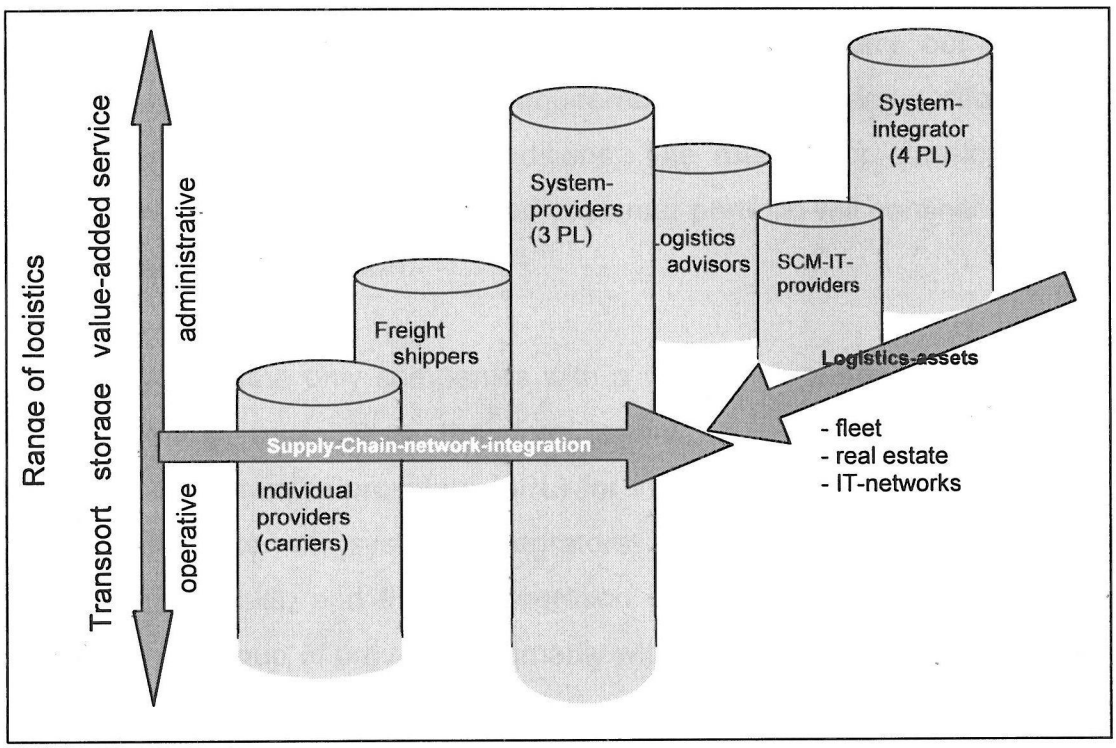


Figure 2.3. Segmentation of logistics service providers (see Baumgarten/Zadek, TU Berlin Visality, 2003)

Figure 2.3. defines 6 types of logistics service provider. Carriers and freight shippers cover only a small scale of logistic services. The largest scale of services cover the 3 PL providers and represent therefore strong partners in the supply chain. Based on their strength there is a chance to achieve a further improvement in the business using CRM.

Logistic advisors and SCM-IT provider support 3 PL and 4 PL providers with their administrative services. The ongoing acceptance of the 4 PL providers with their specialized function is not yet proved on the marketplace. For a 3 PL provider there are significant barriers moving to a 4 PL provider because he has to quit his operative service. This needs the uncertain permission of the customers.

2.3.2. Strategic Realignment

Many logistics service providers are being forced to carry out a strategic realignment, due to the increased requirements of the service portfolio and the changed market and general conditions. The market for classical haulage contractors with a strongly diversified customer portfolio will continue the strong trend towards concentration.

In a few years time only companies with a very efficient transport network will survive. Many businesses therefore aspire to a long-term value-added partnership as system providers (3PL) for industry and trading. Others will go down the route of system integrators (4PL) and administer complex management tasks, and the IT integration of all partners in the value added chain. A third group of providers, primarily with regard to quantity, will attempt to develop into Lead Logistics Service Providers (LLP) in order to be in a position to offer the customer a reasonable combination of contract logistics and logistic control services (see Baumgarten/Beyer/Stommel, 2004, p. 69).

All three groups of service providers however will only develop their range of services globally and shall constantly review proactive alignment to the requirements of their customers, since the variable demand for logistic services means that stronger focussing on the specific needs of the customers is necessary. Setting the objective of essentially greater customer loyalty, including Customer Relationship Management, is recommended for this development. However, by virtue of the greater degree of specialisation, this involves substantially higher marketing and sales expenditure than in the past. Nevertheless, the necessity for a marketing and sales strategy for realigned products is frequently underestimated. A strategic approach towards the customer should therefore be an indispensable component of any strategic realignment.

However, a decision in favour of such strategic realignment and business development requires substantiated analysis and the relevant drawing of conclusions in the form of strategic business area planning, using an appropriate marketing strategy. The planning and implementation process may only be performed with difficulty by the logistics service provider alone, and thus experience in management consulting should be added to relevant branch knowledge (see Emmermann, 2003, p. 322 and 323).

2.3.3 Investment in Education and Information Technology

Not only will individual companies be competing with one another in future, but also, by virtue of shared value added structures, entire business networks. The increasing competition between logistic chains and networks requires inter-company cooperation between network partners. Outsourcing of value added activities to suitable network partners should therefore be accompanied by investments in training and knowledge transfer, within the context of network efficiency.

This criterion requires the efficient alignment of all participating network companies and optimal coordination thereof, and shaping of the entire network is necessary in order to ensure long-term competitiveness.

In relation to this, in addition to suppliers, IT and logistics service providers, customers shall in particular be regarded as decisive cooperating partners in the company network.

The emergence of skills-intensive personal networks with customers, suppliers and service providers may be promoted for example through regular participation in inter-company projects. This supports the formation of so-called informal networks, which are very significant in terms of skills management.

The successful implementation of this approach assumes comprehensive knowledge from participants and those with responsibility for logistic management. This constitutes an argument in favour of the increasing need for highly qualified management here, which must be accompanied by investment.

The investment activities of individual service types in IT systems reflect business activity and the perceived challenge. Thus, providers with an operative focus primarily plan investments in identification systems, which facilitate the control of material flows. Such systems form the basis for value added services, and include for example tracing of consignments, as performed in relation to modern telematics, and offering the customer the required transparency in tracking orders.

A future shift from operative to management systems can be noticed with regard to full-service providers. In addition to optimising the internal workflow through skills management and workflow systems, inter-company solutions are at the forefront of investment activity.

Above all the implementation of supply chain management systems for value added chains is planned in the framework of comprehensive planning and optimisation. This involves the extensive integration of various partner systems by means of Enterprise Application Integration. Electronic marketplaces have lost their position as a strategic concept, but continue to be used as an operative tool. Thus, investments continue to be made in promising systems, in order, for example, to ensure the implementation and operative extension of planned marketplaces for predominantly standardised services, such as transport.

Providers with an administrative focus invest in systems that support the management of their customer relations in order to develop trust and customer loyalty through targeted dialogue. In future, conscious interaction with the resource of knowledge, and targeted use of this resource will be of decisive significance for such providers (see Kuhn/Hellingrath, 2002, p. 29-31).

2.3.4. Positioning in a Growth Market

The traditional operational area for haulage carriers - the organisation of smooth and uninterrupted transport of goods and management of stocks - is increasingly being supplemented by further strong-growth task areas. Given that many companies are concentrating on their core skills, such as research and development, or production and marketing, logistics service providers will be required to perform value-added services and administrative services. The logistics service provider is increasingly becoming responsible for the entire order transaction, i.e. for ordering, processing of orders, payments, delivery to the end customer and customer loyalty and after-sales service. This trend towards contract logistics is promoted through continued efforts to increase outsourcing on the part of industry and trading, e.g. in the areas of warehousing, C-parts management, inbound and outbound logistics, etc. The attempt to create greater individualisation in logistics provision with regard to mass customisation also has a positive impact on the contract logistics market. As a result, customers now increasingly require a partnership-style, longer-term cooperation. The high degree of specialisation in transport networks makes it difficult for haulage carriers to adapt their range of services to strongly growing market requirements. A strategic decision either for continued positioning as a haulage carrier on the market or becoming established as a 3PL or 4PL, with a realignment of the service portfolio in growth areas, is therefore reasonable.

High growth potential has been attributed to contract logistics, which is characterised by the provision of system services for selected parts of the supply chain and linking the logistics service provider to the buyer through long-term partnerships. This requires a medium or long-term general contract. Contract logistics thus requires mastery of several of the customer's partial processes and the bringing in of IT and process expertise. Partnership-style cooperation with the system provider offers the customer needs-based solutions, and offers the 3PL improved planning security and higher margins, by virtue of the longer-term contractual relationship.

The general strong trend towards outsourcing partial services leads to a necessity for comprehensive integration services. Focussing on core areas - driven by increased cost pressure - results in particular in logistic services, which do not generally form part of the core activities of producer companies, being outsourced to specialists in such services. The 4 PL is now performing controlling intervention instead, while taking on essential tasks for the development and preservation of an efficient and smooth progress into the value-added chain. High requirements are placed on the IT expertise of the 4 PL through the large complexity of the network. The 4 PL can only fulfil the requirements placed on it for comprehensive supply-chain management on the basis of extensive information flow.

Strategic tasks are also assigned to the 4 PL as head of the service provider network. It must be perceived in its entirety in order to optimise the supply chain. The alignment of partners in the network to comprehensive objectives therefore becomes the task of the supply chain integrator. If a logistics service provider has acquired the skills of a 4 PL, it has a pioneering role, and can increase its share on a market, now estimated at approx € 12 billion. However, the market does not yet have clear access to these skills, since no company has comprehensively satisfied the requirements for a 4 PL yet, and in particular added value to the customer, which a service provider is able to provide by taking on strategic and management tasks, has not yet been made sufficiently

transparent and credible (see LBBW-Branchen-Update, 2004, p. 8-27). The persuasion work, moving the market in a promising direction, may be accompanied in a targeted way by Customer Relationship Management (CRM).

2.3.5. Previous Use of Customer Relationship Management

An intensive customer focus represents one of the most important competitive factors for companies from a strategic perspective. This is particularly true of logistics service providers - on the one hand logistics service providers may build and develop long-term and inter-company value-added partnerships through focus on customers, thereby creating the basis for successful supply chain management and exposing their position within the supply chain. On the other hand, their customers expect increased individual logistic services in the form of supply to their own end customers.

Customer focus is therefore an essential factor in the success of logistics service providers. Under the generic term of Customer Relationship Management (CRM), relevant concepts are available, which must be adjusted to the individual characteristics of the logistics sector. CRM should not be understood as a static instrument or completely concrete IT tool here, but rather as a customer-based business philosophy. This is expressed in strategic objectives of the company as well as in measures implemented in everyday business.

In this context, Customer Relationship Management means the quality of customer relations for the specific purpose of creating management methods and thus improving competitiveness both within the company and for the customer and its clients (see Kieffer/Zadek, 2006, p. 138).

2.4. Implementation of the Supply Chain Management Concept

2.4.1. Functional Objectives

The provision of operational logistic services is of particular importance in fulfilling objectives and thereby in the success of supply chain management. The contribution of logistics is becoming increasingly significant with particular regard to achieving competitive advantages.

Whereas on the one hand the fourth phase of logistics development can be seen in supply chain management, the view prevails on the other hand that this concept clearly extends beyond mere logistics in terms of its origin and objective. The necessity of breaking down the complex structure of supply chain management on functional levels of logistics, i.e. implementing it, is justified by these differences in views and by the risk inherent in a much-used and thus sometimes vacuous buzzword (see Weber, 1999, p. 2-17 and Cooper/Lambert/ Pagh, 1997, p. 4).

The aim here must be to show the changes brought about in the requirements of logistics by supply chain management, and the products and services that may result for providers of logistic services - whether these are inside or outside the company (see Deppen, 2003, p. 125).

Given that the effects of SCM should primarily be assessed over the long-term and on complex logistic services, 3 PL are as a consequence, in the context of contract logistics service providers (or system providers), at the heart of assessing implementation, since they are of particular importance to the logistic services market.

2.4.2. Management Horizon and Complexity of Services

The systemisation of the product portfolio for logistics, with regard to SCM, is dependent in particular on how far the concept of logistics is understood. Depending on frequency, it may be argued that certain services fall within the scope of logistics or even go well beyond this framework.

There should be agreement on the fact that, within the framework of SCM, the classical transport, turnaround and storage activities (TUL activities) are required in particular by a company in the value added chain, in order to ensure the physical flow of goods. In this context, storage, means of transport and forwarding of orders are also described as "basic logistical functions" (see Küpper/Hoffmann, 1988, p. 594).

Building on these basic functions, value-added activities are often identified, which constitute either specialisations of classic UL services or are completely new. "Value-added services" should also be mentioned here, to designate services in areas such as quality assurance or assembly works, storage, repair and testing services, or packaging, or may include support in customs clearance.

Another systemisation framework becomes distinct with regard to the increasing complexity of classical TUL, as a German terminology of "Transport,-Umschlag,-Lagerung" is used Transportation-Loading-Warehousing functions in terms of "extended logistics functions", such as internal business transport, production planning and control, as well as processing orders and "advanced logistics functions", such as recycling and waste management, customer service and the operation of information and communications systems.

A further approach shows that the planning tasks for SC can be grouped into three interrelated levels in terms of time and logic, which are differentiated with regard to the planning horizon and planning objects. These levels include the areas of "supply chain configuration" in integrated value-added chains, such as modelling and design services, "supply chain planning", such as planning services, and "supply chain execution", such as management services. In conjunction with cross-functional tasks, such as system management, supply chain controlling and optimising procedures, this systemisation approach constitutes a very extensive and detailed description of logistical planning tasks within SCM (see Luczak/Hartweg, 2001, p. 54-57).

The systemisation approaches each describe different facets of logistical tasks and services, while none of them integrates all relevant visualised tasks and services in one single approach. Any attempt at integration shall in particular observe the following factors:

In an integrated approach the classical and expanded transport and storage services must be reacquainted with one another. Consideration must be given to the fact that the requirements of logistics are constantly changing within the framework of SCM.

Beyond classical logistical services, other services must be performed, which help to build, plan and manage the supply chain.

A series of logistics-related support functions, such as IT and consulting services, financial services and supply chain controlling are increasingly gaining in importance.

A systemisation of logistical services may be directed at various dimensions. The dimensions of "complexity of services" and "management horizon" are selected here.

Management horizon includes, in addition to the time aspect, indirect service depth and thus information on the operative and strategic importance of the service. Complexity takes account of the fact that logistic services depend on a number of factors within SCM, such as the required information technology, degree of integration of the supply chain or level of globalisation of the service.

With the assistance of both designated dimensions, nine logistics-related service bundles can be identified, which constitute logistic services in the framework of SCM, including all the individual components thereof. These include the classical transport and storage services (TUL), added-value transport and storage services (MTL), construction and design of supply chains (ASC), planning of supply chains (OSC), management of supply chains (SSC), supply chain controlling (SCC), IT services (ITL), financing and risk transfer services (FRL), and consulting services (BL).

The service bundles described above represent services demanded by companies in the framework of SCM. However, not all services are outsourced to external providers, but rather only those services relevant to specific criteria (see Deppen, 2003, p. 128).

2.5. Outsourcing - Opportunity and Challenge for Logistics Service Providers

2.5.1. Cost and Benefit Considerations

The trend towards logistic outsourcing is continuing and increasing, and offers the logistics service provider the opportunity to develop new business areas and thereby assure long-term growth. The reasons for outsourcing are varied,

however two "major driving forces" can be identified, namely cost and benefit considerations.

The improvement in the cost position through outsourcing logistic services may take place in various ways:

Effects of specialisation at the logistics service provider result in efficiency increases and thereby falling production costs, which can then be passed onto the outsourcing company through price concessions.

Falling production costs may also be generated through economies of scale or optimisation of capacities.

A logistics service provider may enjoy offset demand fluctuations much better than an individual production company through diversifying its customer portfolio.

Synergy effects at the logistics service provider may have a cost-reducing effect. The transfer of title to capital equipment results in fixed costs becoming variable at the customer.

The internal production of logistic services causes opportunity costs, possibly through linking of capital or management capacity (see Bretzke, 1993a, p. 38 and 39).

In addition to these cost considerations however, there are also benefit improvements to possibly initiating outsourcing decisions. The following have been identified here:

Pursuant to outsourcing, the logistics service provider's expertise, technology and infrastructure can be used, as a result of which the quality of own goods is increased and flexibility can be improved.

Outsourcing facilitates concentration on internal core skills and thus on the functions and processes, which are of particular importance for the internal strategic competition position on the market.

Outsourcing also reduces the complexity of internal business processes. Problems in the employee environment, perhaps with respect to working hours for those affiliated to specific collective labour agreements, may be outsourced.

In addition to the abovementioned advantages of outsourcing logistic services, there are of course also some disadvantages, such as any potential increase in transaction costs, reduced control options or possible limited security of supplies (see Kummer, 1993, p. 29).

2.5.2. Basis for Decision-Making

In order to take the correct outsourcing decision, irrespective of the company, various approaches may be pursued. If an approach is selected independently of the type of service, a standard service should be outsourced, whereas a service, which facilitates an effective competition differentiation, shall be rendered internally.

Within the framework of transaction cost theory, a logistic service shall always be outsourced when it has low factor specificity, low uncertainty and low transaction frequency. Conversely, high factor specificity, high uncertainty and high transaction frequency mean internal production should be carried out as a result.

A further approach, with consideration for costs, points to the fact that the procedures to be selected in the framework of an outsourcing decision with regard to cost comparisons and the cost components involved will depend in

particular on the situation surrounding the decision. Consideration shall be given in particular here to whether logistic capacities can be modified or not, in order to determine whether static or dynamic methods of investment accounting shall be aspired to.

The presented outsourcing approaches can be traced back in one form or another either to the transaction cost approach or to the resource-based approach. Both approaches supply model explanations in different ways for the outsourcing decision and both have strengths and weaknesses in this regard.

The transaction cost approach does not initially assess the strategic relevance of a service, while the resource-based approach does not evaluate possible cost differences. An integration of both approaches therefore promises more reliable and comprehensive results. In the course of a differentiated assessment of the outsourcing decision, such integration is specifically desirable (see Deepen, 2003, p. 143 – 145).

2.5.3. New Business Areas and Service Components

The demand for logistic services does not require that each of the services from the nine logistic-related service bundles on the market be demanded at logistics service providers, but rather only one choice of services will be outsourced to third parties.

Based on the integrated outsourcing approach, checks should be made on which service bundles may be generated internally and which can be outsourced.

Classical transport and storage services constitute the simplest form of logistic services and only very rarely constitute a core skill of the company. Extensive outsourcing appears reasonable.

The same applies to added value transport and storage services. Their strategic relevance shall be valued just as highly as the cost reduction potential in case of outsourcing. However they do not constitute core skills. Outsourcing is therefore expected here as well.

Services for the building, design and planning of the supply chain include services of particular strategic relevance for the company. Decisions here go right to the heart of the strategic course of the company. Outsourcing in this area will not be possible for many companies, since they regard such tasks as part of their own central expertise.

In case of services for the control of supply chains the situation is different. Companies often possess few skills on this very operative level, such that outsourcing to a logistics service provider can clearly create additional benefit. Outsourcing therefore seems absolutely possible and reasonable.

Supply chain controlling can only be outsourced in parts. Operative aspects may be externally provided in a relatively problem-free manner, while the control expertise should remain at the company.

The situation appears different for IT and consulting services. In case of both service bundles the overwhelming majority of companies do not possess the internal skills for their own production, and outsourcing is likely and reasonable.

In financing and risk assumption services several skills are also frequently structured outside the company due to specialisation and economies of scale. This results in more extensive outsourcing.

Based on this analysis and against the background of an integrated outsourcing approach it therefore becomes clear that services of classical and added value TUL, the control of supply chains, IT and consulting services, and financing and risk assumption services are extensively outsourced.

Supply controlling services will only be outsourced in parts, whereas building, design and planning of the supply chain are still outsourced to a very limited extent only.

Such limitations will reduce in future, in parallel to the extensions of skills of logistics service providers, and customer relationship management will also play a decisive role in removing reservations.

Services, which are particularly likely to be outsourced, form the basis for logistics service providers' optimal product portfolio within the framework of SCM (see Deepen, 2003, p. 134-136).

2.5.4. Limits to Outsourcing

The significance of outsourcing will continue to increase in future, as it was shown above.

Make or by decisions of the industry concerning purchased products, components and parts are not subject of the dissertation. Obviously buy-decisions increase the volume of the added value of the logistics service providers.

There are limits to the outsourcing of logistic services. This means, inter alia, that not all services, which could in theory be outsourced by companies, are actually outsourced. This relates both to individual services and to entire service bundles.

Outsourcing of logistic services to contract logistics service providers is already a business reality for a whole series of companies. A particularly large number of companies already outsource TUL, MTL, ITL and BL services. Yet there is an even greater share of companies, which estimate the likelihood of outsourcing logistic services as high in the short or long term.

TUL, MTL, ITL and BL services are most frequently indicated here too. 85% of companies can generally envisage outsourcing TUL. This is followed by ITL with 75%, BL at 72% and MTL with 71% of surveyed companies in a representative survey.

However, the inverse assessment method is even more interesting. While only 12% (TUL) to 25% (MTL) of companies describe the outsourcing of such services as unimaginable, the shares of those surveyed are significantly higher in case of other service bundles.

Most severely affected by this are the complex services of building, planning and control of the supply chain. 58% of companies believe it is not yet feasible to place SSC services externally, while the Figure for ASC is 57% and for OSC just 55%. Even SCC suffers from this rejection, with 66% of companies unable to envisage outsourcing this service bundle.

One conclusion from these results is that, although there is a great willingness to outsource all service bundles, a similarly significant share of companies will not outsource the service bundle for a wide diversity of reasons. Companies, which can envisage outsourcing logistic services, are always counteracted by

those, which (still) consider this unfeasible. The distribution varies from service bundle to service bundle in this regard.

Logistics service providers still have to handle a wide range of beliefs and confidence building with regard to extending customer relations into segments that are still unexploited, and this must be commenced by means of Customer Relationship Management (see Deepen, 2003, p. 145 and 146).

Chapter (3)

Customer Relationship Management as a Condition for Decisive Influence of the Logistics Service Provider within Supply Chain Management

3.1. General Conditions for Logistics Service Providers

Industrial enterprises and commerce are increasingly being forced, through tougher competition, to contemplate a customer-oriented design of their logistical process chains, and thus to decisively improve their service in order to remain competitive. Prospects arise here for customer-oriented logistics service providers.

On the one hand, logistics service providers may build up and extend long-term value-added partnerships through customer focus; while on the other hand their customers increasingly expect individual logistic services in the form of provision to their end customers. Customer focus is therefore a substantial factor in success for logistics service providers. Relevant concepts are available under the generic term of Customer Relationship Management (CRM), which must be adapted to the specific characteristics of the logistics branch. CRM should not be understood here as a set of instruments or even a concrete IT tool, but rather as a customer-oriented business philosophy. This is expressed in the strategic objectives of the enterprise as well as in measures implemented in everyday business. A strategy is required, which integrates customer needs into their own system of objectives, for a portfolio of services focussed on the customer process, and for marketing that is communicated in a customer-based and proactive way. In this context, CRM involves making the quality of customer relationships the specific object of management methods and therefore enhancing competitiveness both for their own company and for the customer (see Kieffer/Zadek, 2006, p. 138).

CRM has been developed as an approach based on maintaining positive relationships with customers, increasing customer loyalty, and expanding customer lifetime value (Blattberg/Deighton, 1996, Brassington/Pettit, 2000, Ahn/Kim/Han, 2003).

Understanding the needs of customers and offering value-added services are recognized as factors that determine the success or failure of companies.

Several studies investigated the implementation of Customer Relationship Management (CRM) within an international company during 2003 and made clear that the key success factors include senior management commitment and leadership, strategic planning and a coordinated and targeted programme which successfully combines organizational and process changes with the application of new technology (see Kennedy/Kelleher/Quigley, 2006, p. 255-272).

3.2. Principles of Customer Relationship Management

3.2.1. Definition of Terms

CRM has developed as an approach based on maintaining positive relationships with customers, increasing customer loyalty, and expanding customer lifetime value (Blattberg/Deighton, 1996, Brassington/Pettit, 2000, Ahn/Kim/Han, 2003).

Understanding the needs of customers and offering value-added services are recognized as factors that determine the success or failure of companies.

The Critical Success Factors (CSFs) for CRM following Sauers`s IS (information systems) innovation model are shown in Table 3.1.

Top management support
Communication of CRM strategy
Knowledge management capabilities
Willingness to share data
Willingness to change processes
Technological readiness
Culture change/customer orientation
Process change capability
Systems integration capability

Table 3.1. Critical success factors for CRM

(It is interesting to compare this Table with Table 1.3: in both implementing SCM and CRM, "Top management support" comes first. For future research, a comparison/quantification of these factors would be helpful as well).

CRM outcomes are split in two groups:

a.) development outcomes and

b.) operational outcomes.

Using the CSFs can help organizations manage customer interactions more effectively (see King/Burgess, 2007, p. 1-11).

In deeper examining the concept of CRM, it can be observed that CRM is frequently reduced to its *technological components* (*Brill 1998*, Fischer-Neeb 2000, Jost 1999, Schwede 2000, Schwetz 2000). CRM is more or less equated here with CRM systems with the task of collecting and evaluating customer data and automation of customer-related processes (see Hippner, 2006, p. 17).

Though the fact that modern IT systems can support management of customer relationships in a sustainable way is beyond dispute, this intense IT focus conceals the risk of failing to observe necessary general conditions at the company. Only the coordinated design of a customer-oriented strategy and customer-oriented information systems may exhaust the potential of a CRM concept. Against this background the following definition by Hippner/Wilde is regarded as relevant to success:

"CRM is a customer-oriented business strategy, which attempts, with the assistance of modern information and communications technology, to build up and consolidate long-term profitable customer relationships through integrated and individual marketing, sales and service concepts" (see Hippner/Wilde, 2002, p. 6).

The service-producing sector had increased from 53 % in 1920 up to 81 % in 2000 of the nonfarm employment (U.S. Department of Labor, Bureau of Labor Statistics). The trend toward service is greatest in the most advanced economies leading to the customization of services (see Rust/Chung, 2006, p. 560-580).

This created the increasing importance of analysing customer lifetime value (CLV). Various customer selection metrics are available for managing loyalty programs.

CLV incorporates the probability of customers being active in the future, the future marketing costs and the future contribution margin. Firms can hardness three key strategies to maximize CLV: optional allocation of resources, pitching the right product to the right customer at the right time, and acquiring and retaining profitable customers (see Kumar, 2006, p. 41, 42).

As a result, in the first stage - in compliance with the strategic objectives of the company - a CRM concept must be worked out (see Homburg/Sieben, 2005, p. 446). For example, the customer groups to be processed and channels and instruments to be used (see Wehrmeister, 2001, p. 113) are specified here. Moreover, it is essential to define the general organizational and personnel conditions, and the customer-oriented business processes required for handling customers. Based on this conceptual cornerstone, it is essential to select and implement a CRM system in the second stage, which best complies with business-specific requirements and processes (see Hippner, 2006, p. 18).

With regard to the logistics service provider, details shall be designed in synchrony with requirements under Supply Chain Management (SCM), to allow the logistics service provider to achieve its targeted dominant role within the supply chain, i.e. the integrated approach to CRM must be harmonized with the integrated approach under SCM.

3.2.2. Customer Focus Creates Potential for Success

The general requirement for customer focus is not usually sufficient to persuade logistics service providers to make investments in CRM methods. Customer focus shall primarily prove to be a factor in success if businesses intend to formulate these central ideas as a strategic corporate objective. This contribution to success may be illustrated through the objectives of increased customer satisfaction and customer loyalty. The relationship between customer focus and customer satisfaction is clear. Expectations of customers may be fulfilled or even exceeded through suitable measures, and this will directly result in an increase in customer satisfaction.

While, for its part, customer satisfaction is extremely important to customer loyalty (see Kieffer/Zadek, 2006. p. 138). Meyer/Dornach see a connection in the form of the following causal chain: customer focus leads to customer satisfaction, and this in turn to customer loyalty and therefore long-term profit (see Meyer/Dornach, 1998 p. 27).

Figure 3.1. shows the phases that make up a business relationship. Such a business relationship, also described as a customer life cycle, may be divided into an acquisition phase and loyalty phase:

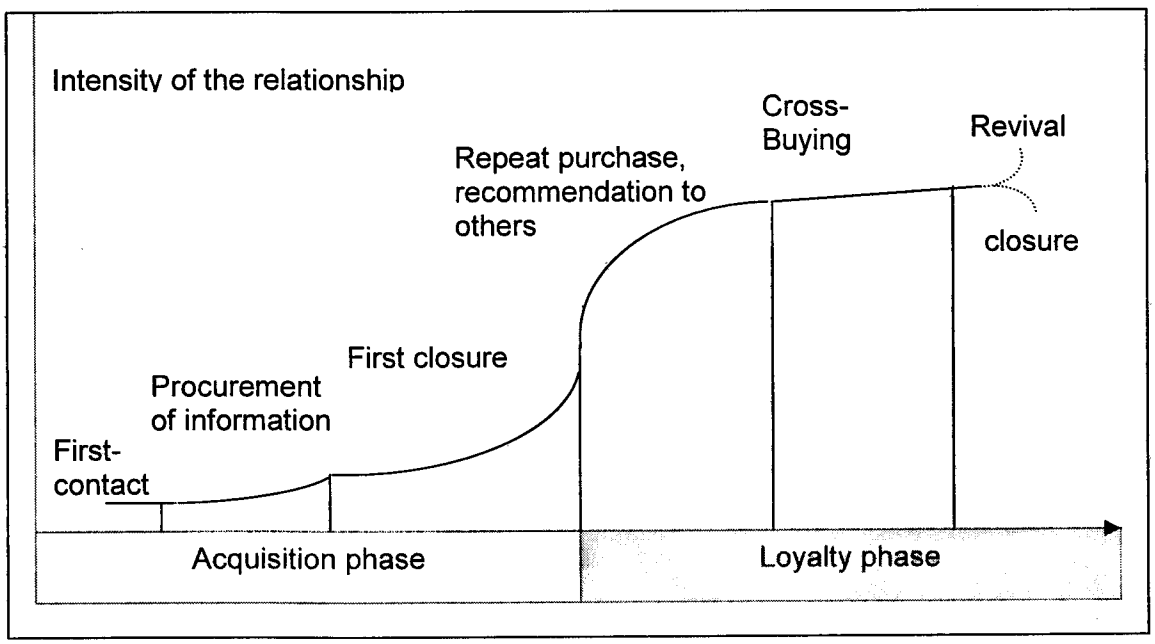


Figure 3.1. Phases in the business relationship (based on Meyer/Dornach, 1998, p. 27)

Customer focus should not finish upon conclusion of a contract. Customer focus is often neglected or even omitted during the loyalty phase. Sales employees resort to costly acquisition of new customers instead. Empirical examinations document the positive relationship between the extent of customer loyalty and profit levels. In the event of contacts being intensified, both turnover and profit per year therefore increase the longer the business relationship lasts. This means that an assessment of the customer's life-cycle value is important to a business relationship. There are two major causes of higher annual profits per

regular customer. On the one hand, in the case of satisfied customers, frequency of purchase and the quantity of services purchased increases over time. On the other hand, these customers, by virtue of the trusting relationship developed, tend to be more willing to demand additional services from the company, i.e. the cross-buying potential of these customers' increases (see Homburg/Garbe, 1995, p. 6 and Meyer/Dornach, 1998, p. 20).

The development of a trusting relationship with the objective of long-term customer loyalty also results in a reduction in marketing and sales costs. Sales costs for new customers (business relationship lasting up to 2 years) are around eight times as high as those for longstanding customers (business relationship for at least 8 years). Looking after a regular customer or business expansion in case of longstanding customers is less costly than obtaining new customers. New customer acquisition is considered the most expensive service in the area of sales (see Homburg/Rudolph, 1995, p. 43).

3.2.3. Extending Utility Through Customer Loyalty

The systematic management of customer relationships opens up further interesting profit opportunities for companies, beyond base revenue. In addition to base revenues, revenue from increased purchasing frequency, cross selling, further recommendations and accepted price rises may be achieved over time from each transaction.

In a day-to-day praxis, the customer has usually three important questions to any logistics service provider:

1)	How well do you know me (my activities, my customers' habits, my desired service level, etc.)?
2)	What benefit will I receive from your service provision? (can I save some costs and/or management time, will my service level increase, can you offer additional services to my customers I can not, etc,)
3)	How simple is it to do business with you? (do you have a similar business culture, are you flexible enough, could I take you as my "partner", etc.)

This was the result of a survey made by DVZ (Deutsche Verkehrszeitung together with potential customers of logistics service providers) (see Gnirke, DVZ No. 23, 2007).

Thus the customer asks about benefits of the relationship, product and process, which it rewards with loyalty, partnership and "share of wallet". By "share of wallet" we mean the share of the earmarked budget the customer transacts with the logistics service provider. It is clearly in the interest of the logistics service provider to know as much as possible about the customer, to impart the greatest possible degree of utility and to design business transaction in such a way that it is very simple for the customer to handle cooperation.

All facts required may be "in the head" of the salesman in smaller operations. However, the larger the operation, the more it is true that only large customers are intensively administered and supported by the key account manager. But the entire mass of knowledge of customers is only readily accessible if filed in such a way, in any part of the business organisation, that each responsible employee is able to access such information if required. IT support of the CRM system is necessary here.

In order to implement such a system within the company, certain preconditions shall be fulfilled. SAP, a worldwide acting enterprise for integrated business software, recommends following 5 basic roles in order to reach successful IT-implementations:

1)	Create clear management commitment to (clear and simple) measures
2)	Contact and support of all involved departments, not just the IT department
3)	Design and maintain clear project structures
4)	Be aware that IT is only a tool and should be directed at the process (it is for the process and not the opposite!)
5)	A tight organization of the roll-out and change process should keep things moving in the right framework.

If the preconditions above have to be fulfilled, an integrated information (ERP) system is definitely needed. ERPs, such as SAP offer a system for logistics providers, consisting of several components. SAP for example offers a special system for logistics service providers, consisting of six components. In the area of acquisition, there is module

- *marketing and campaign management,*
- *lead- and opportunity management and*
- *key account management.*

The service process is supported through

- *supply and order management.*

In the area of after sales and customer support, there is

- *customer service management and*
- *complaints management.*

"Logistics service providers should open up as many channels as possible for customer feedback in this area" (see Gnirke, DVZ No. 23, 2007).

Looking to the utility of enhancing potential for success, an illustration (see Figure 3.2.) can demonstrate the progress:

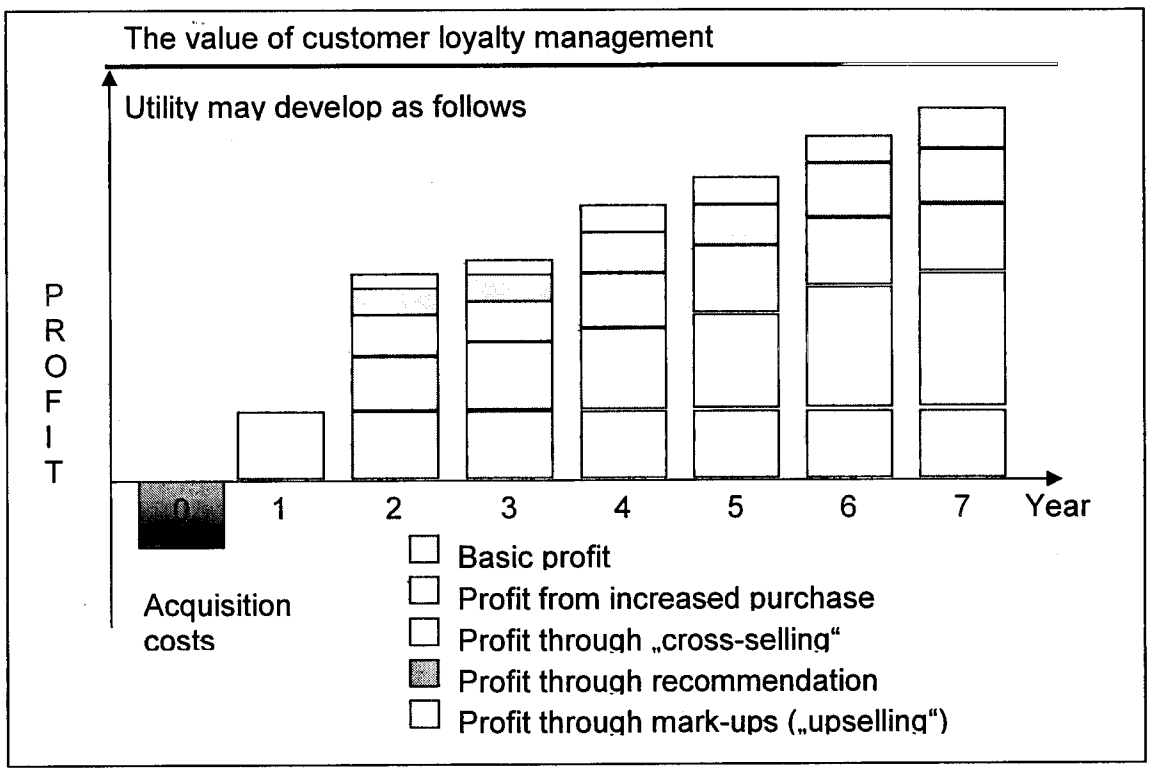


Figure 3.2. The value of customer loyalty management (see Gnirke, DVZ No. 23, 2007 and Reichheld/Sasser, 1998, p. 141)

Here we can see that the basic profit will be definitely increased by enhancements, nevertheless it takes place over a strategic time period (3-7 years).

3.3. Process Organization and Process Management

3.3.1. Objectives of Process Design

Senior management of businesses and sciences agree that the future will not be successful without process organisation and process management.

According to Gaitanides (Gaitanides, 1983, p. 6), the advantages of process assessment are the followings:

- improved overview of the procedural event
- facilitates realisation of the flow principle
- simple recognition of functions for employees
- streamlining the connection and coordination of tasks .

Activities may be regarded as the smallest organizational unit in a process model. An activity is a target-based individual procedure in a company. These activities are linked in compliance with necessary procedures arising, and thus processes are generated. Individual processes may in turn be connected to process chains and thereby form the next aggregation level within the process hierarchy (see Wolff, 1995, p. 59 and Baumgarten, 1999, p. 228).

The strict alignment of processes to the customer-supplier principle is a decisive criterion for the formation of customer-oriented process chains. This results in internal customers and suppliers being assessed, as well as external customers (see Zadek, 2003, p. 335).

3.3.2. Customer Focus in the Process Cycle

By linking inter-company and intra-company process chains, a process cycle is generated. Baumgarten defines the term process cycle as "the combination of all processes, from acceptance of the customer order through to handover or provision of the product or service to the customer, including the associated replacement, production and feedback processes" (see Baumgarten, 1996a, p. 1672).

The development process chain includes all processes from the product idea through to market launch. The goods, services and information required for the service or production process are provided through the supply process chain. The order transaction process chain is one of the central chains, which illustrates business purpose and forms the basis for existence. All the more important is the consistent and continuous alignment of the process chain to the customer. This constitutes a customer-to-customer process chain, i.e. the process chain begins with receipt of the customer order and ends with handover of the service to the customer. The supply process chain closes the process cycle with processes from the return and processing of used goods, recycling and residual materials, through to reintegration of components, parts and substances into the supply process chain (see Emmermann, 1996, p. 81).

The process chains described thus far are focussed on the product and customer. Consistently deeper customer focus in the process structure results in both new and extended process chains. Modern logistics management, with its integrated and inter-company approach, exerts a particular influence on the process structure. In relation to the use of new information systems and technologies, Supply Chain Management (SCM) should be mentioned here (see Zadek, 2001, p. 325).

The logistical process chains described above relate to a company in the value-added chain, and are focused on the customer of the company. However this only constitutes partial optimisation. Inter-company logistic management extends the assessment to the entire value added chain, horizontally and vertically. Starting with end customers, right through to raw materials subcontractors, all trading levels, manufacturers, system suppliers and subcontractors, as well as service providers, are included.

An integrated assessment of all individual logistic systems, and as a result of their optimal networking with an alignment to end customers, is conducted for logistics. All process chains shall be aligned both to direct customers and to all subsequent and in particular to end customers (see Figure 3.3.):

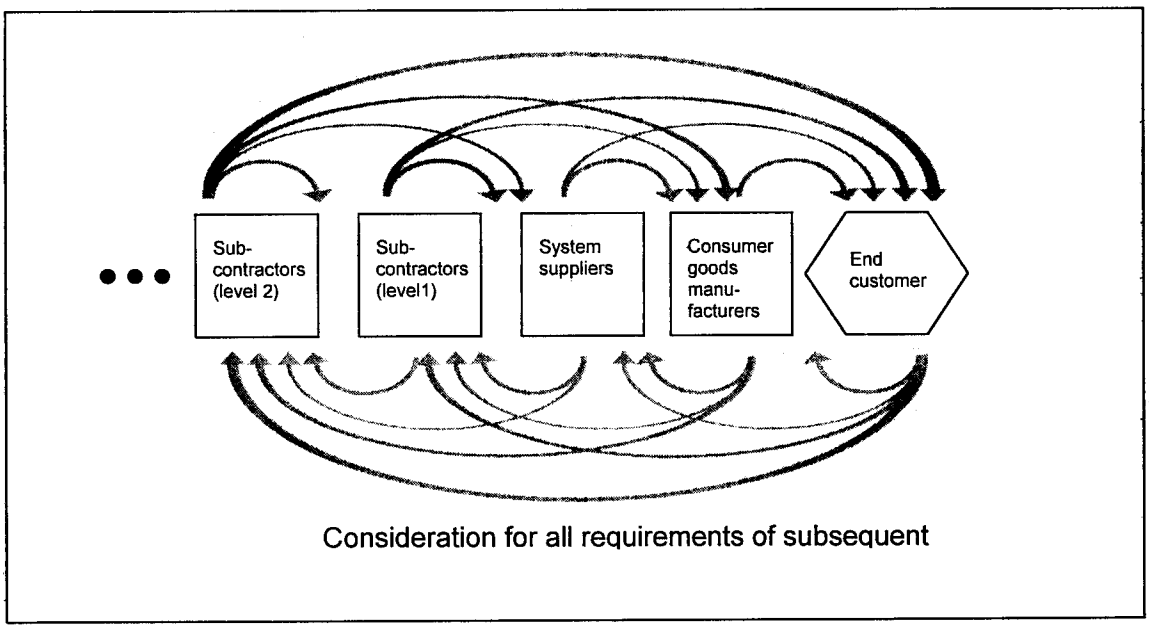


Figure 3.3. Inclusion of all subsequent customers (see Zadek, 2003, p. 336)

It can be seen that an integrated assessment of all individual logistic systems, as a result of their optimal networking with an alignment to end customers, is conducted for logistics. All process chains shall be aligned both to direct customers and to all subsequent- and in particular to end customers.

3.4. Design of Customer-Oriented Logistic Processes

In this context logistics managers are largely pioneers in respect of customer focus, and measure customer satisfaction most intensively (see European Logistics Association, 1997). Despite these increased efforts, logistics managers essentially show lower than average logistic costs.

Logistics managers achieve higher performance through customer focus. Customer-oriented logistic processes have therefore become an essential control element for active customer loyalty. In particular, new logistic processes in after-sales service create great potential for success in this regard. Various measures shall be taken in order to ensure realisation of comprehensive customer focus at logistics service providers, which may be classified as below (see Kieffer/Zadek, 2006 p. 140 and 141).

3.4.1. Integration into the System of Objectives and Organizational Structure

Business objectives shall be aligned to the expectations of customers, and guidelines shall be formulated for dealing with customers, to be adopted as binding. The organizational structure shall be adapted to process and customer focus. The clear alignment of CRM measures, and their effective implementation, shall be conducted pervasively via the responsible functions and levels. In particular, business management, marketing and sales are decisive functional areas for initiating and pursuing CRM projects. Integration into the IT department is increasingly gaining in significance in planning and particularly in implementation.

3.4.2. Implementation of Logistic Solutions

Targeted logistic services, which leave behind a sustained effect at the customer, shall be built up and extended. In parallel, investments shall be made in logistic solutions, which are effective both for their own customers and for their suppliers or end customers. Customer focus here also involves risk sharing, e.g. common investments strengthen customer loyalty, and this applies in particular to investments in IT interfaces and steadily integrating service provider processes into customer processes. Service provider processes must be reproducible for the customer through the defined status. Valuable logistic skills for the customer must be identified, strengthened and highlighted within marketing. A consistent customer focus means that solutions are also offered if they do not directly form part of their own service range, but may be mediated or integrated.

3.4.3. Anchoring in the Customer Relationship Management Process

Close integration of the customer allows for positive action and thereby rapid and flexible reaction to its requirements and expectations. Customers shall therefore be assessed based on their level of attractiveness:

Important customers for the company shall be identified in order to reasonably concentrate customer loyalty measures and necessary resources on them. Within the context of such customer differentiation important customers should always be provided with slightly greater provision than demanded - such as through more efficient performance (with cost benefit) or higher quality or improved service. Internally directed measures are also of great importance here for employees, in particular in respect of increasing qualifications and job satisfaction. In parallel, the intensity of support assigned to the customer is also

important. Key account and complaints management form part of the specifications of the logistics service provider. Finally, a CRM IT tool is needed, which controls regulated procedures and activities and supplies data from the customer history. Comprehensive CRM or targeted customer loyalty management increasingly assumes IT support.

But this type of customer focus does not only produce long-term benefits to the contracting enterprise, but also to related customers. Regular customers therefore have an information advantage, lower time expenditure in the search for performance, security over service quality, lower transaction costs and a certain preferential position (see Meyer/Dornach, 1998).

3.4.4. The Bridge from Customer Focus to Customer Satisfaction

Knowledge of fundamental mechanisms, which determine the level of satisfaction in customers, is indispensable to any targeted customer focus. Even prior to placing the order, customers develop certain expectations, which lead to a process of subjective comparison. By means of these expectations, they compare the performance received after purchase or after placing the order.

If customers judge that their expectations have remained unfulfilled, they will be dissatisfied. If on the other hand customers see their expectations fulfilled, at least a neutral feeling emerges - a certain degree of indifference. Furthermore, the service of the relevant provider even seems replaceable. Only if the administered service exceeds expectations does genuine satisfaction, in the sense of enthusiasm, set in. Figure 3.4. shows this relationship:

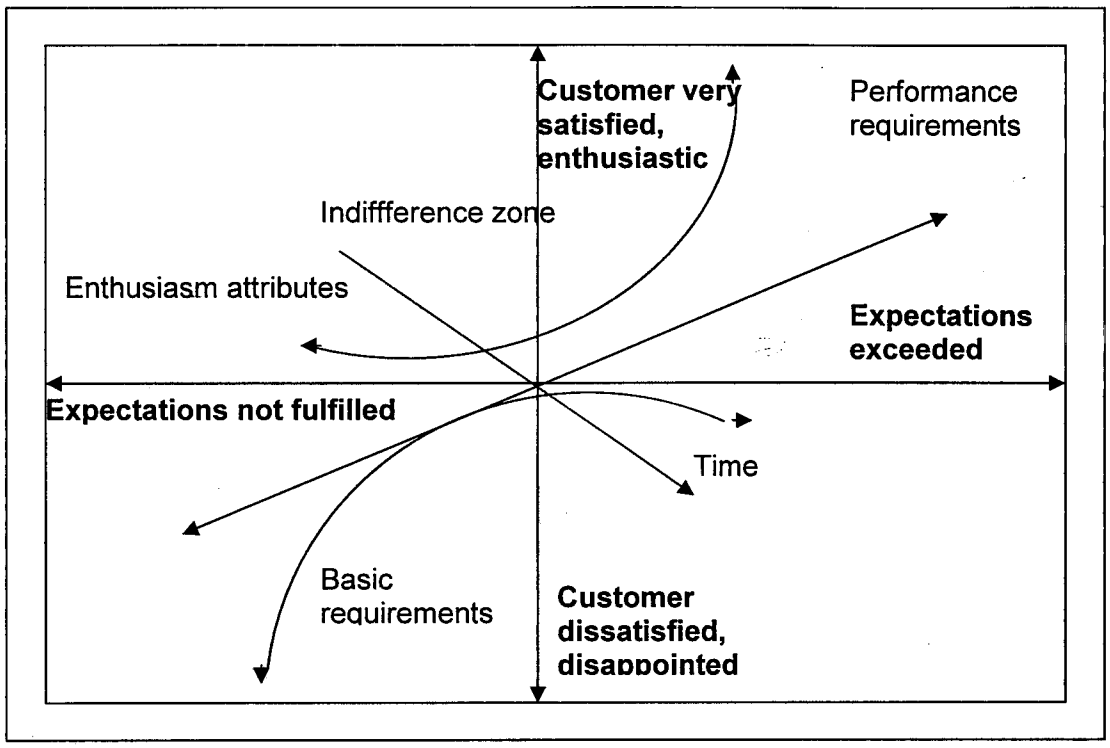


Figure 3.4. The Kano model of customer satisfaction (see Bailom/ Hinterhuber/Matzler/Sauerwein, 1996, p. 118)

The "Basic requirements", "Performance requirements" and "Enthusiasm" attributes exercise a differing influence on customer satisfaction. Basic requirements include all service components, the fulfilment of which is simply assumed by the customer. If they are not fulfilled, this makes the customer very dissatisfied; however, should expectations be exceeded, this is generally not rewarded further. The customer regards basic requirements as natural.

"Performance requirements" relate to service components expected by the customer and generally measurable. If they do not fully comply with expectations, dissatisfaction arises - if customer expectations are exceeded in this regard, satisfaction increases. Performance requirements are generally defined and explicitly demanded by the customer. Merely fulfilling them however only results in a moderate degree of satisfaction. Customers see offered service features as more or less exchangeable, i.e. they remain indifferent.

"Enthusiasm" attributes on the other hand are suited to considerably enhancing the value of the administered service of the provider. This means product or service features, which actually enthuse the customer - i.e. service components, which are usually neither explicitly demanded nor expected, but the provision of which makes the service more valuable overall and noticeably increases the degree of satisfaction. Such an enthusiasm feature for example may include a specific training program for selected customers on the subject of "efficient SCM".

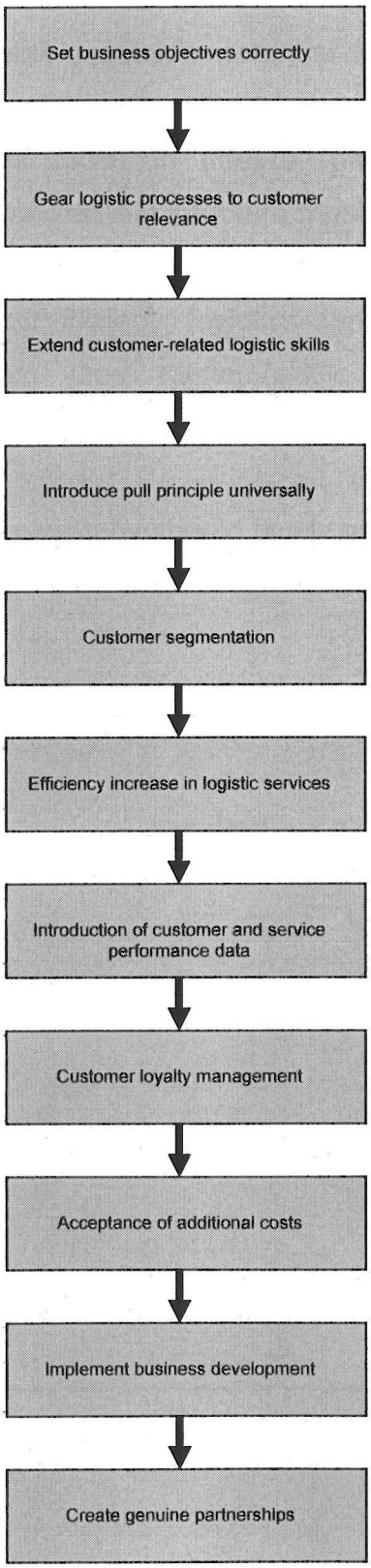
What customers regard as basic or performance requirements or as enthusiasm attributes essentially depends on their respective personal preferences and frequently differs from customer to customer. Moreover, the classification may change over time. What still enthuses a customer today might well be seen by him tomorrow as explicitly expected and perhaps the day after tomorrow as basic requirements (see Bailom/Tschemernjak/Matzler/Hinterhuber, 1998, p. 48 and 49).

Being aware of the significance of satisfied customers the logistics service provider must gear its CRM and customer loyalty management to further increasing its weight within customer-oriented SCM[3].

[3] Recent studies develop the Kano CRM model to the customer knowledge management (CKM) model. In a knowledge management domain, an important task is the conversion of tacit knowledge into explicit knowledge, whereby the well-established Kano's Method has come up to demand and extract customer knowledge for attractive quality creation in new product development projects. Researchers propose a Kano – CKM model with as methodology to delineate precisely the process of customer knowledge discovery for innovative product development (see Chen/Su, 2006, p 589).

3.5. Handling Recommendations for Middle-Sized Logistics Service Providers

By way of summary of considerations thus far, a series of measures are recommended for the realisation of comprehensive CRM at logistics service providers, with the objective of improving customer focus in logistical processes and, as a direct result, the logistics service provider playing a dominant role within SCM (see Table 3.2.).:



Set business objectives correctly	Business objectives shall be aligned to the expectations of customers, employees and shareholders, in particular the former shall be analysed and included.
Gear logistic processes to customer relevance	Logistic services, which leave a sustained impact on the customer, shall be extended in a targeted way and provided for with investments.
Extend customer-related logistic skills	Logistic skills that are valuable for the customer must be identified, strengthened and highlighted in marketing/sales.
Introduce pull principle universally	The customer sets the requirements and expectations - a close integration of the customer allows for proactive action and thus rapid, flexible reaction.
Customer segmentation	Customers that are important to the company shall be identified, in order to reasonably concentrate CRM and customer loyalty measures on them and provide necessary resources.
Efficiency increase in logistic services	Important customers should always be provided with slightly more services than demanded, either through more reasonably priced performance, higher quality or improved service.
Introduction of customer and service performance data	Without controlling, relevant data improvements cannot be registered. Knowledge of customer and service performance data is necessary.
Customer loyalty management	In order to allow for support of the customer in a targeted way, regulated procedures and data from customer history are required. This demands IT support at an increased level.
Acceptance of additional costs	A logistics service provider naturally only achieves higher customer focus through targeted efforts, which are also associated with additional costs in compliance with expectations. Possible potential success far exceeds these additional costs.
Implement business development	Business development means that new business areas (based on market and customer requirements) are developed in a planned and structured way.
Create genuine partnerships	In order to promote sustained, profitable organic growth and a positive differentiation from competition, logistics service providerss must act more professionally and harmonize the means of treating their customers, appearing with them on the market, and their market image for each point of contact in the business relationship. Logistics service providers should strive to form strong bases with loyal and profitable customers, which also bring publicity to the company. A benchmark for customer focus and partnership is whether the customer is genuinely convinced by the logistics service provider.

Table 3.2. Handling recommendations (see Zadek, 2003, p. 348 and IBM Global Business Services, 2006, p. 1 and 23)

By way of conclusion, it can be deduced that logistics service providers may exploit profitable potential for success by anchoring customer focus on all management and employees in the long term. CRM must begin with visions and shall form an integral part of business processes. The business and organizational structure must be put to the test. In particular, marketing strategy shall be adapted to scheduled business development. By means of customer focus strategy, logistics service providers achieve integration into the supply chain (see Kieffer/Zadek, 2006, p. 139) and eventually, through the implementation of individual measures, a dominant role.

This strategy should finally pay off, ending in a virtuous circle. Figure 3.5. shows this relationship:

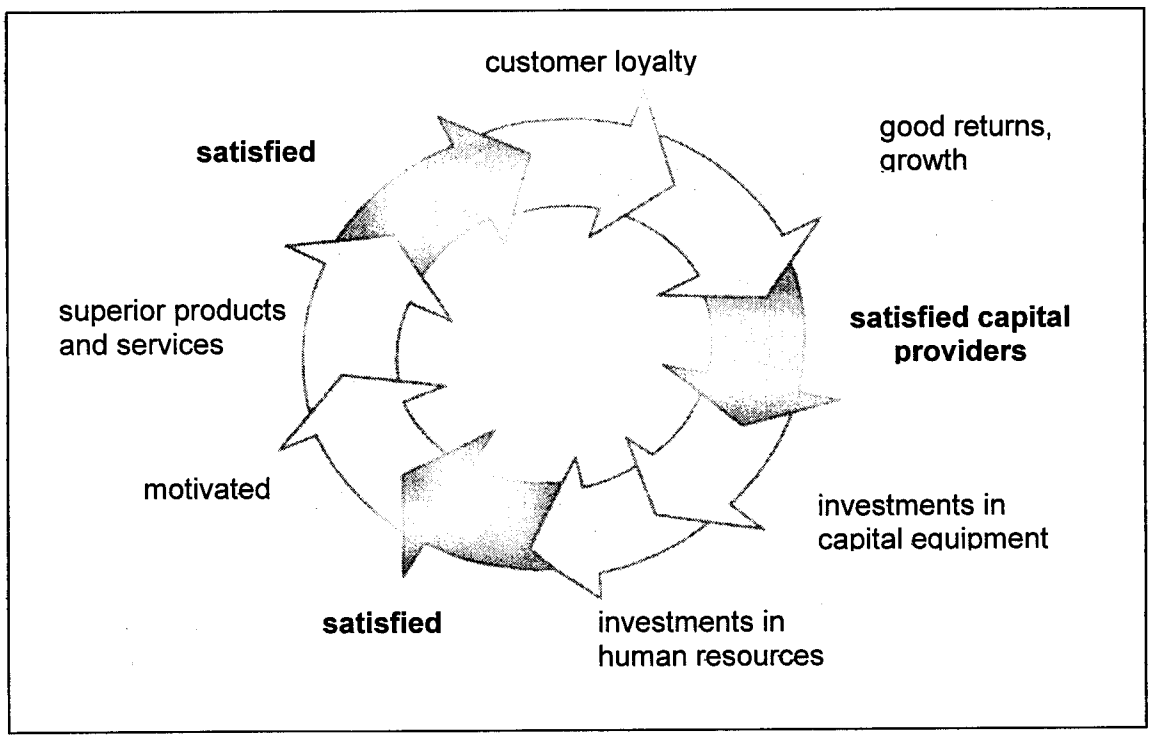


Figure 3.5. Virtuous circle for a company (see Bock, 1995, p. 80)

Chapter (4)

The Significance of Selected Customer Strategy Activities at German Logistics Service Providers - Results of the Empirical Research

4.1. Background and Methods of the Research

With regard to the statements made in Chapter (3) on customer focus and the necessity for Customer Relationship Management, the research is intended to produce a comparison of claim and reality. The research is meant to reveal how logistics service providers act on the market and any shortfalls to be registered. On this basis, major criteria may be deduced for successful action.

The author carried out an empirical research in form of a survey at 30 forwarding, transportation- and logistics companies in Germany.

The research was made step by step in the period July – December 2006. The process is shown in Table 4.1.

• project determination
• defining of questions - defining subject areas - defining several questions to each subject - defining scale for answering (0: not important, 100: very important
→ list of questions

• interview
- finding interview partners - explanation of research - finding and documentation of answers
→ grade for each question from each interview partner

• analysis
- calculation of average grade for each answer - bar-diagram for each subject area: x-Axis: questions y-Axis: average grade
→ bar-diagram for each subject area as a basis for further evaluation

Table 4.1. Research process

The firms were selected out of 3 big German logistic cooperation-networks, consisting of medium sized logistics firms.

Interview partners and their turnover in 2005:

turnover Mio €	Number of firms
75 – 105	6
105 – 135	6
135 – 165	6
165 – 195	6
195 – 225	6

A big portion of the management of these medium sized firms is well known by the author. This guaranties high quality concerning the content of the answers.

The portfolio of services of the firms within the pool is in line with the profile of a medium-sized logistics service provider.

30 interviews were made in person by the author with top management executives (such as CEO, COO, CFO, sales director, branch director and divisional manager.) of the medium sized firms based on a catalogue of questions. The catalogue covers the following subject areas. (See Table 4.2.)

Catalogue of interviews – subjects and elements -

Subject areas	Interview element / basis of questions
changed understanding of the role of logistics service providers	distribution
	quality management
	procurements
	strategy & concept of outsourcing projects
	IT implementation
	hardware provision
	IT management (support, etc.)
	production logistics
	support of development processes
	change management
	supplier relationship management
	project financing
	recycling
	customer relationship management
performance of market analyses	own market position
	customer satisfaction
	positioning of competitors
	market trends
	customer loyalty

business positioning in competition	development of growth markets
	differentiation from competitors
	focus on customer expectation
	focussing on own strengths
setting out marketing objectives	limited to regional target area
	limited to specific target groups
	providing a target period
	specifying measurable quantities
	general formulation of objectives
	no definition of objectives
review of marketing measures	no control process
	irregularly
	regularly every year
	at least quarterly
	after expiry of an individual campaign
	permanent
targeted customer segmentation	not segmentation of customers
	meaning of the customer as multiplicator
	geographical distribution
	range of the service at the customer
	future potential
	profitability of the business
	industry
	past conversion

increase in customer loyalty	loyalty campaign
	IT-house-seminars at customers
	research of former customers
	use of CRM tool
	complaints management
	potential analyses
	invitation of customers
	logging of customer visits
	training of employees
	event with customer
	address database
measuring success of customer loyalty strategy	no measuring
	frequency of call to tenders by the customers
	sales increase trough cross-selling
	average duration of business relationship
	results of research for customer satisfaction
	appraisal of respective partners

Table 4.2. Question catalogue of the interviews

The usage of the interviews was 21 out of 30. The used interviews were complete and the know how of the interview partners was evident. During the evaluation of the answers it was not necessary to exclude any answer far away from the average.

The answers of 9 interview partners could not meet the quality demands of the author.

The reasons are:

- change of management (1)
- merger with large-scale logistics service provider (1)
- replaced interview partners (7)

The methodology for presentation of content relies partly on a study by the German Logistic and Transport Journal (DVZ) and Miebach Logistik GmbH (see DVZ/Miebach, May 2005) used in 4.2.-4.6.:

4.2. Modified Understanding of the Role of Logistics Service Providers

Logistics service providers have continually expanded their service portfolio on the supply side, and will continue to do so in the next few years. Traditionally, logistics service providers are still strongly integrated in distribution processes. In future, service providers intend to increasingly undertake procurement processes and functions in production logistics. Implementation of the modern understanding of logistics in process chains is reflected herein. This also involves a smooth exchange of information. Therefore, logistics service providers view the use of relevant information and communications technologies as a further challenge. Finally, the significance of interface management is underweighted. In particular this relates to the interface of their customers (Customer Relationship Management). Figure 4.1. Illustrates individually surveyed service positions:

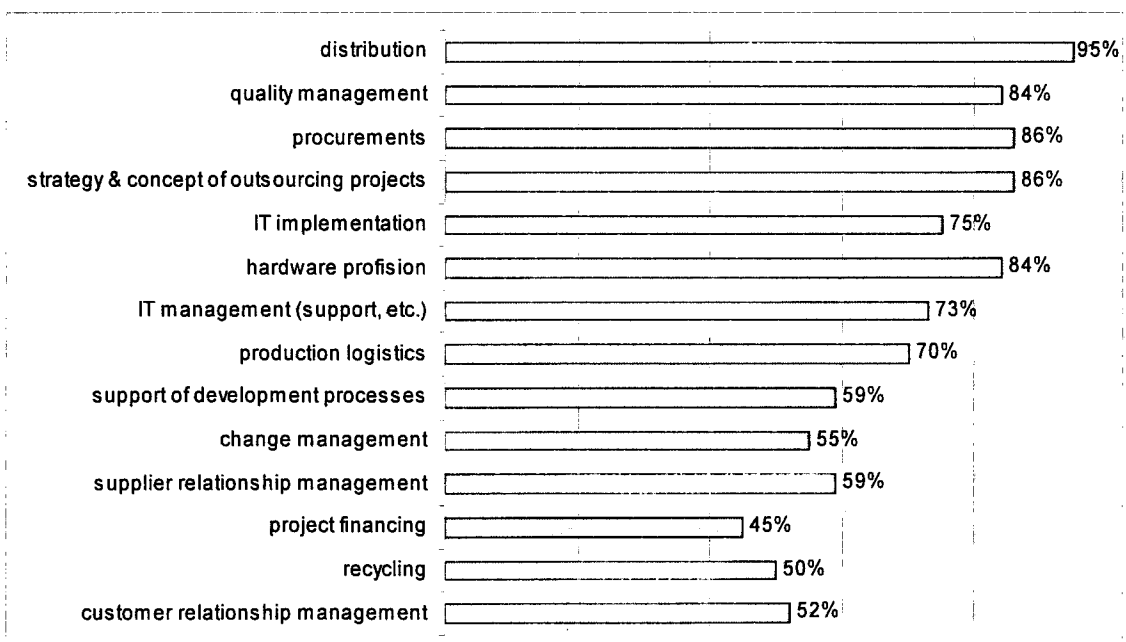


Figure 4.1. Modified (changed) understanding of the role of logistics service providers

It can be seen that managers/owners of middle-sized logistics companies understand the role of their company very differently.

4.3. Market and Competition Strategy

4.3.1. Performance of Market Analyses

In the framework of market research, information shall be acquired on existing and possible future competitors and customers, external framework conditions, development of market volume and, naturally, companies' own position on the market.

With regard to criteria asked about within the scope of market analyses, predominantly market trends, customer requirements and positioning of competitors are recorded. Assessment of the company's own market position and development of the overall market, and evaluation of their own image on the market play less of a role. Figure 4.2. shows the results of the research:

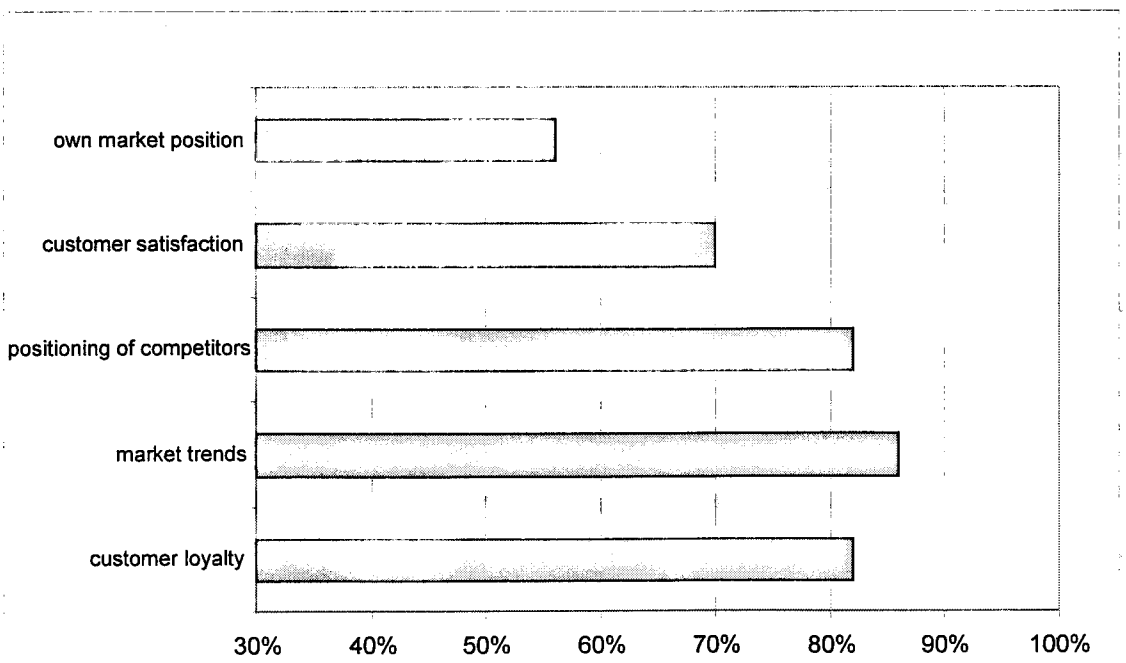


Figure 4.2. Criteria examined in market analyses

The result of the research shows that the logistics service provider are not fully aware of the importance of customer satisfaction, which is from the authors view the key for opening the door. A range between 90 – 100 % is necessary for customer satisfaction.

Based on literature, customer satisfaction should be the top priority for each company. It is clearly more difficult, time-consuming and cost-intensive to acquire new customers than to hold onto existing customers. Satisfied customers tend to be more open to cross-selling approaches, recommend the company to others and are happy to return themselves. For this reason it is important to regularly check on customer satisfaction, in order to adapt services in good time where appropriate, if they do not comply or no longer comply with customer expectations. Hereby we can state that the majority of surveyed companies have recognized this.

4.3.2. Business Positioning in Competition

As a strategy for positioning in competition, over 60% of respondents emphasize focussing on their own strengths. Only around 50% of respondents regard a focus on meeting expectations of the customer as an important component of strategy. The shift to growth markets of just 25% is very disappointing, while only 40% regard differentiation from competitors as an important building block for successful positioning in the competitive environment. Figure 4.3. shows the results:

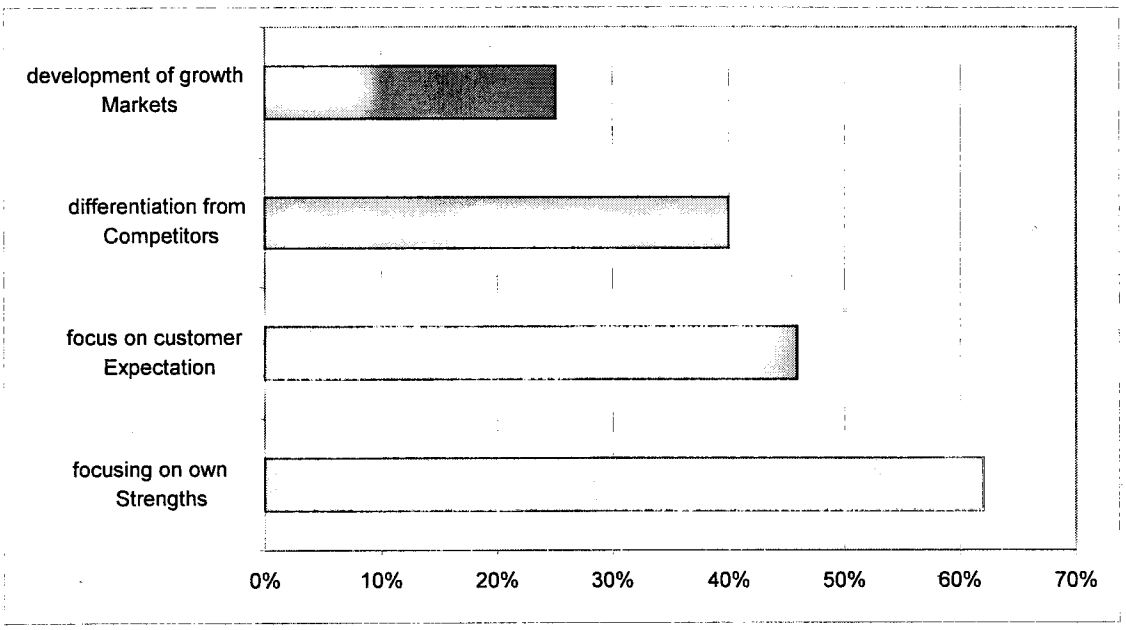


Figure 4.3. Strategies for positioning in competition

4.4. The Importance of Marketing

4.4.1. Setting out Marketing Objectives

Marketing objectives play an important role, since they set the direction for all marketing activities. They constitute a condition for efficient controlling, which monitors the achieving of objectives and provides early information in case of any deviations. As a result, marketing objectives should be formulated as concretely as possible and, by way of example, should be broken down into individual business units, regions or customer groups (depending on the set-up of the company). This also facilitates target setting for individual employees.

The significance of marketing objectives can also be seen at the surveyed companies. Merely 13% of the companies manage without setting marketing objectives, while 80% specify measurable quantities. Figure 4.4. provides an overview of this:

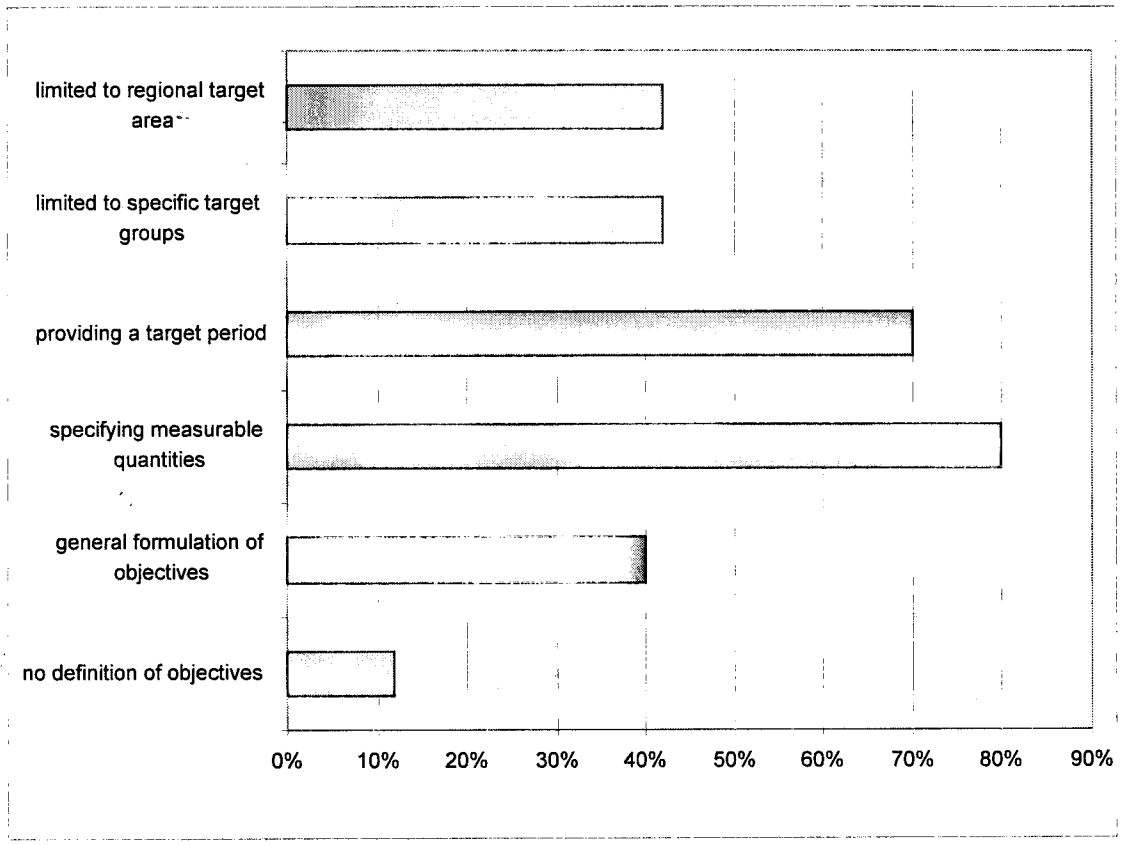


Figure 4.4. Setting marketing objectives

It can be told, that the picture of "setting objectives" has been very mixed. It would need a more detailed analysis to understand a motivation behind.

4.4.2. Review of Marketing Measures

Regular review of marketing measures is not anticipated at all companies. A not insignificant share of surveyed companies only analyse their activities irregularly, or fail to do so at all, in terms of success or failure. 31% of respondents emphasize control processes, which are directed at individual campaigns in a targeted way. 40% of respondents "check" their marketing measures regularly, at least once a year. Figure 4.5. provides an overview of this:

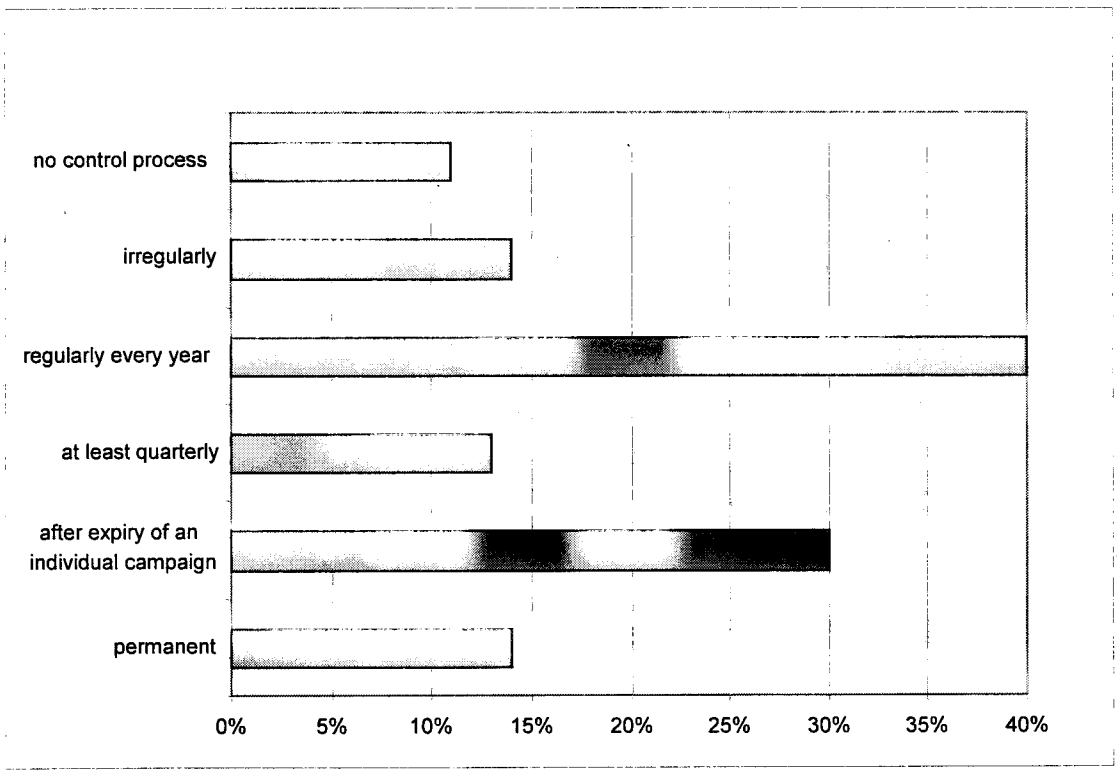


Figure 4.5. Overview of marketing measures

Although a relatively large number of surveyed logistics service providers recognized the importance of marketing objectives, there is still a lack of sufficient understanding for review measures in terms of their success or failure. The result has been more "disappointed", more regularity was expected. There has been a great potential for improvement in this area.

4.5. Targeted Customer Segmentation

The background to segmentation of customers lies in being able to address various groups in a targeted way, and making more efficient use of scarce resources.

The results of the research , as presented in Figure 4.6., show that the groups of particular interest are those displaying high future potential and/or high profitability. Sector and sales orientation also play a significant role:

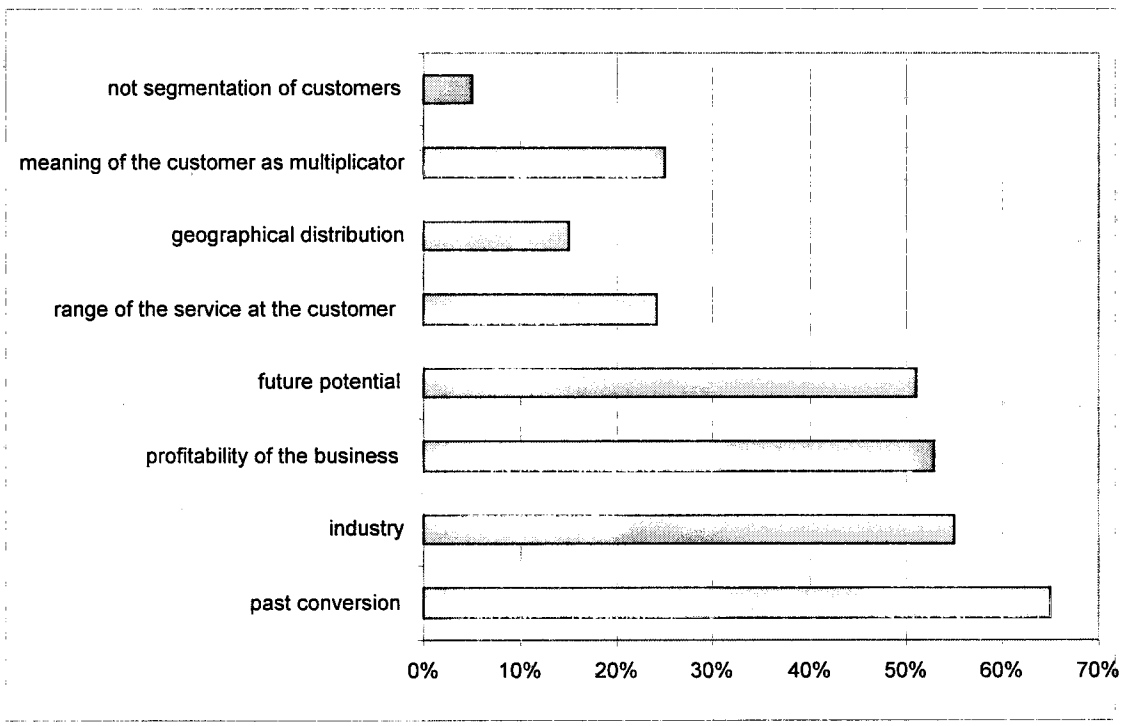


Figure 4.6. Segmentation of customers

In respect of customer segmentation, logistics service providers focus on lucrative sectors and customers with high turnover. Interesting groups, with future potential and profitable efficiency, may still be expanded.

4.6. Increase in Customer Loyalty

4.6.1. Methods and Instruments

On the subject of customer surveys, great significance was attached, within the framework of the market analysis, to existing relationships. Regular contact with the customer is very important. On the one hand, this always conveys a positive feeling to customers that people are interested in them. On the other hand, it allows the customer to identify any dissatisfaction with its own service in good time, in order to conduct causal research accordingly, and allow for counter measures to be taken.

Figure 4.7. shows the usage of internal and external methods and instruments in comparison:

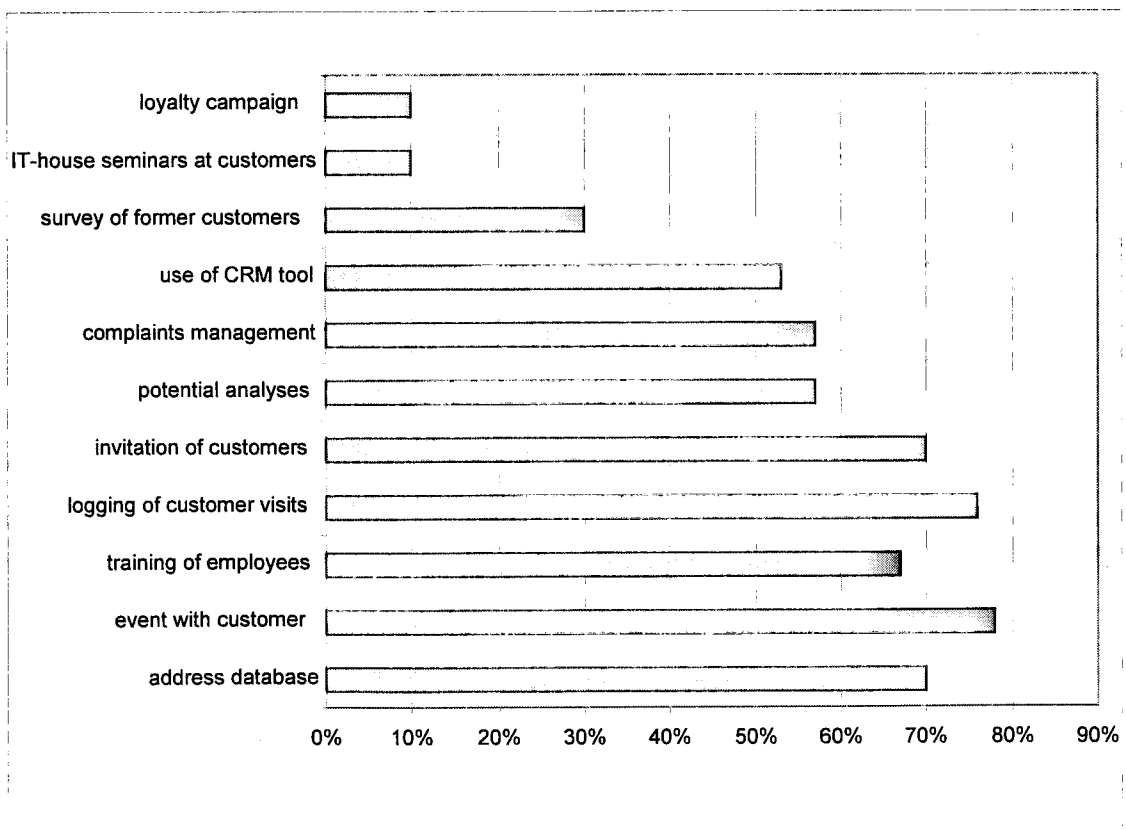


Figure 4.7. Methods and instruments for increasing customer loyalty

Logistics service providers already exploit the range of possible customer loyalty instruments to a relatively high extent (though worth enhancing).

4.6.2. Measuring Success of Customer Loyalty Strategy

In order to measure customer loyalty various criteria are used, as shown in Figure 4.8.:

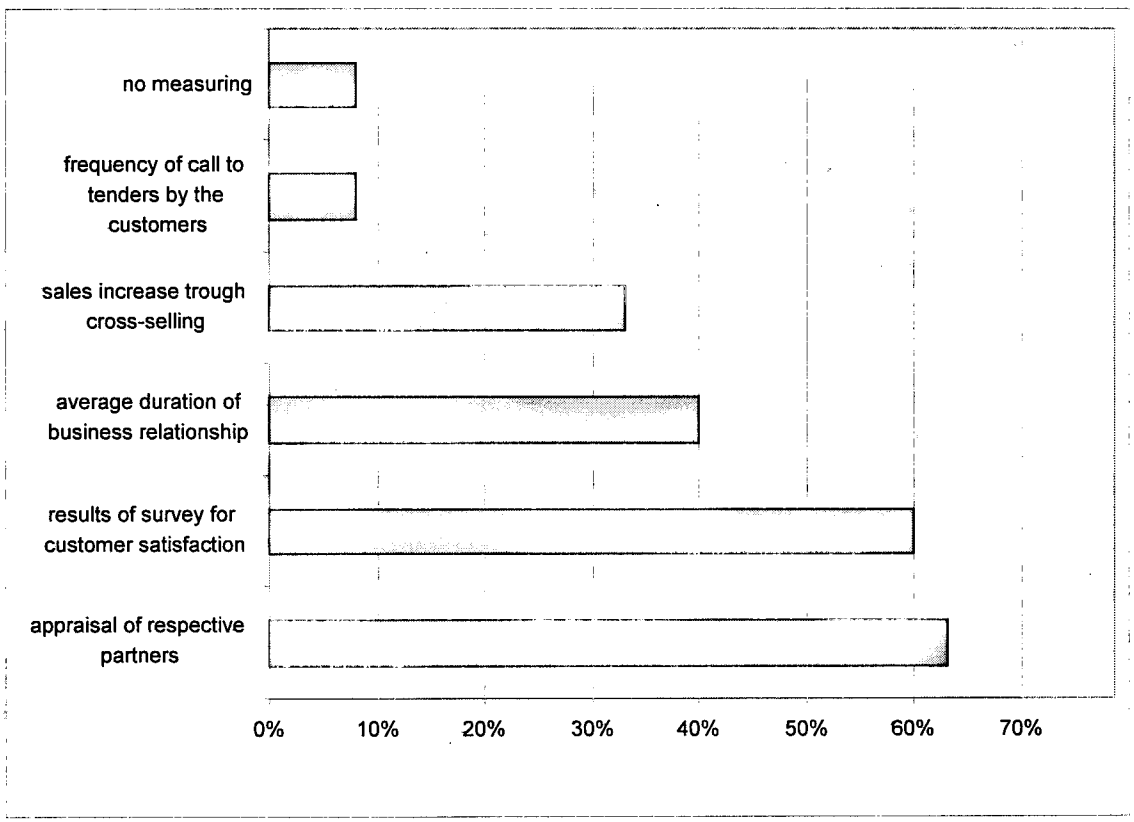


Figure 4.8. Criteria for measuring success of the customer loyalty strategy

The personal appraisal dominates all objective measuring criteria. The lack of formal marketing controls can also be seen here. Furthermore, consideration is given to the fact that research s on customer satisfaction are essentially based on personal discussions and impressions at a large number of companies, and thus it should be established that genuine measurement, in the sense of an independent investigation of quantitative criteria, is only conducted to a modest extent.

4.7. Summary of the Results of the Empirical Research

It is the intention of the research to find indications for successful logistics service provider using CRM. Therefore - assuming the elements are of the same value – the average of the interview elements per subject area was calculated as unit of measurement. The result is shown in Figure 4.9.:

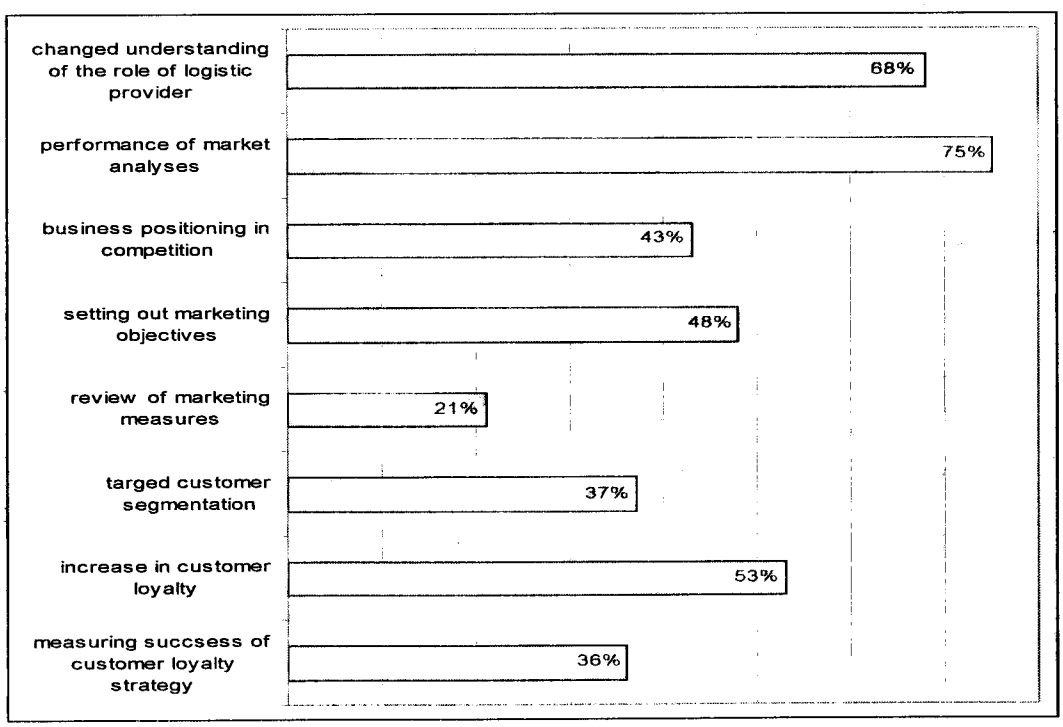


Figure 4.9. Overall positioning

Based on the need to deal with CRM you can see that the interview partners are focused only on changed understanding of the role of logistics service provider and performance analyses. The importance of the other subject areas is under-estimated. This means, that there is a good chance for further improvement. Basically, it is not sufficient to set the target concerning marketing, competition and customer loyalty. Measuring the results and follow up must take place.

The final step was to select the interview partners in the turnover segment 165 – 225 Mio. €, which had a substantial growth during the last years from the others. Using the above mentioned methods a reasonable result was achieved, fit to be realized.

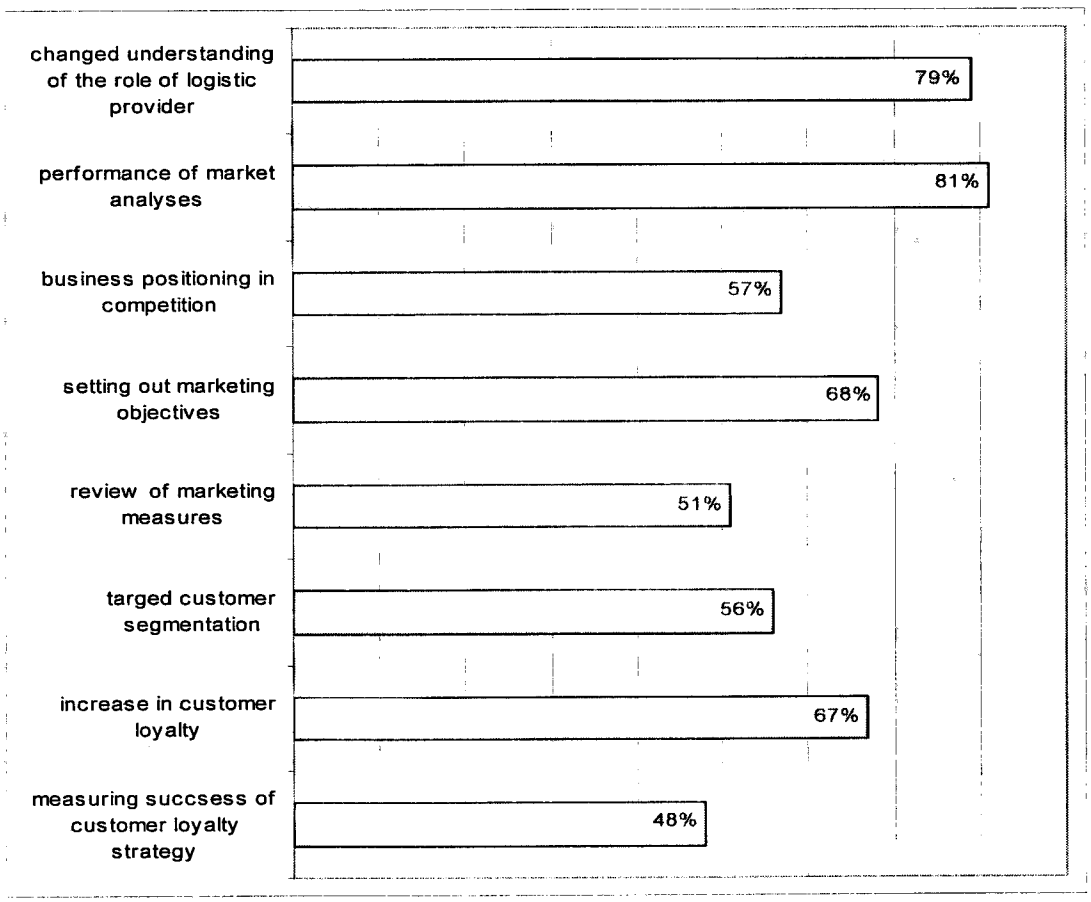


Figure 4.10. Winner positioning

The investigation, shown in Figure 4.10., comes to the conclusion, that firms with significant betters results in the subject areas concerning marketing and customer loyalty are in the position to grow faster. It is therefore a challenge to reach a professional CRM-status.

Closing Summary and Conclusions

This dissertation is intended to address the central importance of Customer Relationship Management for the logistics service provider in successful business management, in the course of exacting tasks within the supply chain.

Chapters (1 - 3) illustrate the current state of discussion with regard to market and competition developments, the internal role of the logistics service provider and the effects of forced customer focus. Chapter (4) provides an insight, through empirical results, into actual behavioural patterns of logistics service providers and allows for recognition of the extent of untapped potential.

Conclusions should be drawn on the answers to questions generated by the theses.

The growing importance of Supply Chain Management is beyond dispute - primarily in the case of industrial and commercial companies intending to concentrate increasingly on their core business. This releases the potential for logistic tasks, which offer development opportunities for logistics service providers in respect of differentiation from competitors and which facilitate access to Supply Chain Management. The development of the logistics service provider into a recognized and difficult-to-replace partner within the overall supply chain requires a changed role understanding (Thesis 2) and the establishment of diverse skills with regard to service portfolio, special services and IT management. This is the only way for it to achieve a leading position as a Third Party Logistics service provider (3 PL). However, one precondition here is that the private interests of actors involved in the supply chain are coordinated in such a way that the best overall solution is achieved within the supply chain network. Consistent focus on the customer, and its customers, is necessary in order to remove these barriers, allowing for prejudicial private

interests to be countered by the power of argument and for provision and services to be designed on the basis of customer expectations.

The alignment of the positioning process of logistics service providers on the market runs counter to the above statements. Focus on the customer does not yet play a key role here. This is shown in particular by the empirical results in Chapter (4), with the demonstration of claim and reality. Essentially placing the internal service portfolio in the forefront of business strategy has a counter-productive effect in the overall context of this subject area. Successful differentiation from the competition, resulting in a firmly established market position, requires the targeted use of marketing instruments, which prompt the customer, for its part, to order additional services. Planning and implementation of the service portfolio shall be geared towards this. Finally, this approach should end up in strategic business area planning, which is focussed on customer needs and customer expectations, and thereby generates customer loyalty, which in turn leads to a successful long-term business relationship (Thesis 3).

The journey towards increasing customer loyalty necessary for business success cannot bypass the implementation of Customer Relationship Management, in fact on the contrary, the auspicious methods and instruments of CRM should be employed and implemented. As a result, for example, decisive importance is not attached to pricing and the cost dimension in the long term, provided they are within a reasonable scope. Customer loyalty tends rather to be achieved through service quality, in conjunction with joint exploitation of improvement potential, which enhances business performance for each partner involved. This assumes that logistics service providers approach the customer with confidence. Empirical results in this area, set out in Chapter (4), reveal there is still a large need for action here. The need for action in the design of customer relationships results directly in the demand for the logistics service provider to become more intensively involved in Customer

Relationship Management, where a dominant role is meant to be achieved within the supply chain (Thesis 1).

The intensification of customer relationships first allows for "access" to new service and customer segments along the supply chain, and only then can the coordinated formulation of the service portfolio be performed.

In parallel, the quality standard for services to be performed should be correspondingly high. This implies a high level of trust between partners, which in turn is only developed in the event of sustained performance by the logistics service provider.

However, the conception and implementation of this business strategy may not be designed in isolation from the business cultures of those involved, management and organization, willingness to change and human resources, on the contrary, customers and logistics service providers should also "close ranks" in these segments.

Especially the top management of the logistics service provider must be in a position to achieve a high degree of competence in order to run the complex logistic processes within the overall internal business processes. Reaching this target a logistics service provider as partner in the added value process of his customer will be created. This make sure that both partners are satisfied and successful (Thesis 4).

The logistics service provider may only demand a dominant role within the supply chain through a strategy that assures such a structure of business processes as shown in DLP-model.

This role then guarantees outstanding results in terms of added value and sustained business performance.

Not only the logistics service provider creates advantages achieving dominance within the supply chain, the partners also profit from his additional functions. It can be stated if we analyse the benefits for them as well.

Such a "benefit"-type analysis – demonstrating the benefits from the cost side and the management side - is shown in Table 5.1.:

Financial/Cost advantages	Other management advantages
- less cost of production	- focus on core business
- improved capacity utilisation	- less complexity of business processes
- less cost for investment and management	- favourable wage standards
- improved resources utilisation	- using technology and infrastructure of logistics service provider
	- improved competitiveness

Table 5.1. Advantages for partners when achieving additional dominance of logistics service providers

Considering the advantages even at other supply chain members, the role of a Dominant Logistics Service Provider (DLP) is desirable and useful.

List of Figures and Tables

References

Adobor, H. / Mc Mullen, R.: Supplier diversity and supply chain management: A strategic approach, Kelley School of Business, 2007

Bailom, F. / Hinterhuber, H.H. / Matzler, K. / Sauerwein, E.: Das Kano-Modell der Kundenzufriedenheit, in: Marketing ZFP Heft 2, 1996

Bailom, F. / Tschemernjak, D. / Matzler, K. / Hinterhuber, H. H.: Durch strikte Kundennähe die Abnehmer begeistern, in: Harvard Business Manager, Heft 1/98, 1998

Baumgarten, H.: Prozesskettenmanagement, in: Kern, W. / Schröder, H. H. / Weber, J. (Hrsg): Handwörterbuch der Produktionswirtschaft, Stuttgart, 1996

Baumgarten, H.: Prozesskettenmanagement in der Logistik, in: Weber, J. / Baumgarten, H. (Hrsg): Handbuch Logistik – Management von Material- und Warenflussprozessen, Stuttgart, 1999

Baumgarten, H. / Beyer, J. / Stommel, H.: Planungs- und Steuerungsaufgaben in industriellen Versorgungsnetzwerken, in: Jahrbuch Logistik, 2004

Baumgarten, H. / Walter, S.: Trends u. Strategien in der Logistik 2000 plus, Berlin, 2000

Baumgarten, H. / Darkow, I. L.: Konzepte in Supply Chain Management, in: Dangelmaier, W. / Busch, A. (Hrsg): Integriertes Supply Chain Management, 2002

Baumgarten, H. / Thoms, J.: Supply Chains im Wandel, in: Jahrbuch der Logistik 2003 – Logistik – Perspektiven, Trends und Strategien in der Logistik, Düsseldorf, 2003

Baumgarten, H. / Zadek, H.: Segmente der Logistikdienstleister, in: TU Berlin Visuality, 2003a

Baumgarten, H. / Kasiske, F. / Zadek, H.: Logistikdienstleister – Quo vadis? Stellenwert der Fourth Party Logistics Service Provider (4 PL), in: Logistik Management, 4 Jg., Nr. 1, 2002

Baumgarten, H.: Trends und Strategien in der Logistik, (Hrsg): TU Berlin / BVL, Berlin, 2002

Beckmann, H.: Potenziale des Collaborative Planning, in: Jahrbuch Logistik, 2002

Beckmann, H.: Supply Chain Management: Grundlagen, Konzepte und Strategien, in: Beckmann, H. (Hrsg): Supply Chain Management, Strategien und Entwicklungstendenzen in Spitzenunternehmen, Berlin-Heidelberg-New York, 2004

Binner, F. H.: Strategisches Logistikmanagement als Management unternehmensübergreifender Wertschöpfungsketten begreifen, in: Päbst, L. M. / Wipki, B. (Hrsg): Marketing in der Logistik, Hamburg, 2003

Bock, F.: Der Hochleistungsansatz von Arthur D. Little, in: Nippa, M. / Picot, A. (Hrsg): Prozessmanagement und Reengineering, Frankfurt-New York, 1995

Brill, H.: Mit neuen Systemen in Vertrieb und Marketing die Konkurrenz abhängen, in: HMD, Nr. 204, 1998

Bretzke, W. R. : Pro und Contra Outsourcing von Logistikleistungen, in: Beschaffung aktuell, 1993, Nr. 6, S. 37 – 39

Chen, Y.-H. / Su, C.-T.: A Kano – CKM Model for Customer Knowledge Discovery; Total Quality Management, Vol. 17, 2006

Chikán, A. / Demeter, K.: Company Characteristics, Operations Competitiveness and Overall Performance, in: International Journal of Quant. Management, Nr. 12, pp 107-125, 2006

Chikán, A. / Czakó, E. / Zoltayné Paprika, Z. (ed.): National Competitiveness in Global Economy: the Case of Hungary, Budapest: Akadémiai Kiadó, 2002

Chow, G.-H. / T.-Henrikson. L.: Logistics Performance Definition and Measurement, International Journal of Physical Distribution and Logistics Management, Vol. 24 No 1., 1994

Cooper, M. C. / Lambert, D. M. / Pagh, J. D.: Supply Chain Management: More than a New Name for Logistics, in: The International Journal of Logistics Management, 8 Jg., Nr. 1, 1997

Corsten, D. / Gabriel, C.: Supply Chain Management erfolgreich umsetzen, Berlin- Heidelberg, 2004

Deepen, J.: Die Rolle des Logistikdienstleisters im Supply Chain Management – Eine konzeptionell - empirische Betrachtung, in: Weber, J. / Deepen, J.: (Hrsg): Erfolg durch Logistik, Erkenntnisse aktueller Forschung, Bern-Stuttgart-Wien, 2003

DVZ / Miebach-Logistik: Studie Markenmanagement: Markenmanagement und Marketing für Logistikdienstleister, Hamburg, 2005

ECR Monitor: ECR Status in Deutschland und der Schweiz, Abschlussbericht des dritten ECR Monitors, 2001

Emmermann, M.: Beitrag zur Entwicklung der Prozesskette "Entsorgung" auf der Basis einer managementorientierten Entsorgungslogistik, in: Baumgarten, H. / Ihde, G. H. (Hrsg): Schriftenreihe der Bundesvereinigung Logistik, Band 40 München, 1996

Emmermann, M.: Supply Chain Management in der Praxis - Schlagwort oder Erfolgsfaktor, in: Päbst, L. M. / Wipki, B. (Hrsg): Marketing in der Logistik, Hamburg, 2003

European Logistics Association (ELA) (Hrsg): Towards the 21st Century, Trends and Strategies in European Logistics, Results of the ELA Survey 1997, Berlin - Brüssels, 1997

Fischer, / Neeb, D.: Customer Relationship Management – der Kunde im Mittelpunkt, in: Information Management Consulting, Nr. 1, 2000

Fürst, K. / Schmidt, T.: Turbulent markets needs flexible supply chain communication, 2001

Fung, P.: Managing purchasing in a supply chain context – evolution and resolution, Logist Information Management 12, 1999

Gaitanides, M.: Prozessorganisation – Entwicklung, Ansätze und Programme prozessorientierter Organisationsgestaltung, München, 1983

Gerberich, C.: Modernes Logistikmanagement mit Balanced Scorecard, in: Päbst, L. M. / Wipki, B. (Hrsg): Marketing der Logistik, Hamburg, 2003

Göpfert, I. (Hrsg): Logistik der Zukunft – Logistics for the Future, Marburg, 2006

Gnirke, W.: Wertsteigerung durch Kundenbindung, in: DVZ Nr. 23, 2007

Hellingrath, B. / Laakmann, F. / Nayabi, K.: Auswahl und Einführung von SCM – Softwaresystemen, in: Beckmann, H. (Hrsg): Supply Chain Management, Berlin-Heidelberg, 2004

Hippner, H.: CRM – Grundlagen, Ziele und Konzepte, in: Hippner, H. / Wilde, K. D. (Hrsg): Grundlagen des CRM, Konzepte und Gestaltung, Wiesbaden, 2006

Hippner, H. / Wilde, K. D.: CRM – Ein Überblick, in: Helmke, S. / Dangelmaier, W. (Hrsg): Effektives Customer Relationship Management, Wiesbaden, 2002

Homburg, C. / Garbe, B.: Das Management industrieller Dienstleistungen – Problemfelder und Erfolgsfaktoren, in: Homburg, C. (Hrsg): Management Know-how - praxisnah und aktuell, Paket 2: Kundennähe, Teil 3, Vallendar, 1995

Homburg, C. / Rudolf, B.: Wie zufrieden sind Ihre Kunden tatsächlich?, in: Harvard Business Manager, 17 Jg.,1995

Homburg, C. / Sieben, F. G.: Customer Relationship Management (CRM) – Strategische Ausrichtung statt IT-getriebener Aktivismus, in Brühn, M. / Homburg, C. (Hrsg): Handbuch Kundenbindungsmanagement, Wiesbaden, 2005

IBM Global Business Services: Studie Advocacy in the customer focused enterprise: The next generation of CRM Done Right, Copyright IBM Corporation, 2006

Inkalainen, A. / Vepsalainen, A.: SCM-Redesign, in: Szegedi-Prezenszki: Logisztika-menedzsment, Kossuth, 2005

Jammernegg, W. / Reiner, G.: Performance improvement of supply chain processes by coordinated inventory and capacity management, International journal of production economics Nr. 108, 2007

Jost, A.: Kundenmanagementsteuerung – Erweiterung der Vertriebssteuerung im Rahmen umfassender CRM-Systeme, in: Blinnel, F. / Fassot, G. / Theobald, A. (Hrsg): Electronic Commerce - Herausforderungen, Anwendungen, Perspektiven, Wiesbaden, 1999

Kearney, A.T.: Measuring and Improving Productivity in Physical Distribution, National Council of Physical Distribution Management, Chicago, 1984

Kennedy, A. / Kelleher, C. / Quigley, M.: CRM Best Practice; Getting it right first time at ESB International, School of Marketing, Faculty of Business, Dublin Institute of Technology, 2006

Kieffer, D. / Zadek, H.: Customer Relationship Management für Logistik-Dienstleister, in: Jahrbuch Logistik, 2006

King, S. F. / Burgess, T. F.: Understanding success and failure in customer relationship management; Industrial Marketing Management, 2007

Klaus, P. / Kille, Ch.: Die Top 100 der Logistik, Hamburg, 2006

Koether, R.: Logistik als Managementaufgabe, in: Koether, R. (Hrsg): Taschenbuch der Logistik, Leipzig, 2006

Küpper, H. U. / Hoffmann, H.: Ansätze und Entwicklungstendenzen des Logistik-Controllings in Unternehmen der BRD, in: DBW, 48. Jg., 1988

Kuhn, A.: Trends in der Logistik – Perspektiven aus Sicht eines Forschungsdienstleisters, in: Jahrbuch Logistik, 2003

Kuhn, A. / Hellingrath, H.: Supply Chain Management, Optimierte Zusammenarbeit in der Wertschöpfungskette, Berlin-Heidleberg-Ney York, 2002

Kumar, : Customer lifetime value is the path to prosperity; Marketing Research 41, 2006

Kummer, S.: Outsourcing von Logistikleistungen: Controlling wirkt qualitätssichernd, in: Beschaffung aktuell, Nr. 11, 1993

Larson, P. / Poist, R. / Halldorson A.: Perspectives on Logistics vs. SCM: A survey of SCM professionals, Journal of business logistics, Vol. 28, No 1, 2007

LBBW: Branchen-Update Logistik, Stuttgart, 2004

Lebensmittelzeitung / Miebach Logistik: SCM in der Konsumgüterbranche 2004 – eine Studie über die Strukturen der Logistik und des Supply Chain Managements, Frankfurt, 2004

Luczak, H. / Hartweg, E.: Supply chain Management Systeme, in: Sebastion, H.J. / Grünert, T. (Hrsg): Logistik Management, Supply Chain Management und e` Business, Stuttgart, 2001

Mau, M.: Supply Chain Management - Prozessoptimierung entlang der Wertschöpfungskette, Weinheim, 2003

McGinnis, M. / Kochunny, C.M. / Ackermann, K.B.: Third Party Logistics Choice, The International Journal of Logistics Management, Vol. 6 No. 2, 1995

Meyer, A. / Dornach, F.: Das deutsche Kundenbarometer 1998 - Qualität und Zufriedenheit, in: Jahrbuch der Kundenzufriedenheit 1998, München, 1998

Pakurár, M. / Gályász, J. / Szabados, Gy.: Clasters in agrologistics Integrated systems for agri-food production, in: Proceedings of the SIPA'05, Timisoara, 2005

Pató G Szücs, B. / Kovács, Z. / Pató, G.: "Unnecessary" skills in Logistics, in: Logistical Yearbook 2007-2008, MLE, Budapest, (2008) pp. 129-136

Pfohl, H. C.: Logistiktrends: Supply Chain Management aus der Sicht des Top Managements, in: Pfohl, H. C. (Hrsg): Risiko- und Chancenmanagement in der Supply Chain, Darmstadt, 2002

Pfohl, H. C.: Supply Chain Management: Konzept, Trends, Strategien, in: Pfohl, H. C. (Hrsg): Supply Chain Management: Logistik plus?, Logistikkette – Marketingkette – Finanzkette -, Darmstadt, 2000

Rust, R. T. / Chung, T. S.: Marketing Models of Service and Relationship, Marketing Science, Vol. 25, No. 6, Nov.-Dec., 2006

Rekettye, G. / Fojtik, J.: The changing Role of Pricing in the New Millennium, Organizaciaja – Journal of Management, Informatics and Human Ressources (Slovenia), Vol 33., 2000

Rekettye, G. / Farkas, F.: Relevant Management Issues, Organizacija in Management, (ISBN 86-81049-99-2) Portoroz, 1996

Reichheld, F. F. / Sasser, W. E.: Zero – Migration – Dienstleister im Sog der Qualitätsrevolution, in: Bruhn, M. / Homburg, C. (Hrsg): Handbuch Kundenbindungsmanagement – Grundlagen, Konzepte, Erfahrungen, Wiesbaden, 1998

Schwede, S.: Vision und Wirklichkeit von CRM, in: Information Management Consulting, Nr. 1, 2000

Schwetz, W.: Customer Relationship Management – Mit dem richtigen CAS / CRM-System Kundenbeziehungen erfolgreich gestalten, Wiesbaden, 2000

Szegedi, Z.: Logistics in Small and Medium Companies in Central- and Eastern Europe, in: International Journal of Procurement Management, Vol. 1, Nr. 3. (2008), pp.359-370. ISBN: 0 7277 2599 8.

Szegedi, Z. / Illés B. Cs.: Logistics and Supply Chain Management for Hungarian Middle-Sized Companies: Effect on Competitiveness, in: Proceedings of the 10th International Conference of the Society for Global Business & Economic Development, August 8-11, 2007, Kyoto, Japan, p. 2522-2533,

Szegedi, Z. / Prezenszki, J.: Logisztika-menedzsment, Kossuth Publishing House, Budapest, 2003

Tan, E. N. / Smith, G. / Saad, M.: Managing the global supply chain: a SME perspective Production Planning & Control No. 4, 2006

Tan, K. C.: A. framework of supply chain management literature, Euro J. Purch & Supply Chain Management, 2001

Thaler, K.: Informationslogistik, in: Koether R. (Hrsg) - Taschenbuch der Logistik, München – Wien, 2006

Van der Vaart, T. / van Donk, D. P.: A critical review on survey-based research in supply chain integration; International Journal of Production Economics No. 111, 2008

Vörös, J.: Lot Sizing with Quality Improvement and Setup Time Reduction, European Journal of Operational Research, Nr. 1999

Wallenburg, C. M.: Kundenbindung in der Logistik, Eine empirische Untersuchung zu ihren Einflussfaktoren, Bern-Stuttgart-Wien, 2004

Wannenwetsch, / Nicolai, : eSupply Chain Management – Grundlagen Strategien und Praxisanwendungen, Wiesbaden 2002

Weber, J.: Stand und Entwicklungsperspektiven des Logistik-Controlling, WHU-Forschungspapier, Nr. 61, Vallendar, 1999

Weber, J. / Dehler, M.: Entwicklungsstand der Logistik, in: H. C. Pfohl (Hrsg): Supply Chain Management: Logistik Plus?, Logistikkette – Marketingkette - Finanzkette, Darmstadt, 2000

Wehrmeister, D.: Customer Relationship Management – Kunden gewinnen und an das Unternehmen binden, Köln, 2001

Werner, H.: Supply Chain Management, Wiesbaden, 2000

Wildemann, H.: Von Just-In-Time zu Supply Chain Management, in: Wildemann, H. (Hrsg): Supply Chain Management, München, 2000

Wolf, S.: Zeitoptimierung in logistischen Ketten – Ein Instrumentarium zum Controlling von Liefer- und Durchlaufzeiten bei kundenspezifischer Serienproduktion, in: Baumgarten, H. / Ihde G. H. (Hrsg): Schriftenreihe der Bundesvereinigung Logistik, Band 35, München, 1995

Zadek, H.: Customer Relationsship Management - Anforderungen an das Leistungsportfolio von Logistik-Dienstleistern, in: Päbst, L. M. / Wipki, B. (Hrsg): Marketing in der Logistik, Hamburg, 2003

Zadek, H.: E-Supply Chain Management in der Automobilindustrie, in: Dangelmaier, W. / Pape, N. / Rüther, M. (Hrsg): Die Supply Chain im Zeitalter von E-Business und Global Sourcing, Fraunhofer ALB, Paderborn, 2001

List of Abbreviations

3 PL	Third Party Logistics Service Provider
4 PL	Fourth Party Logistics Service Provider
APS	Advanced Planning and Scheduling Systems
ASC	Construction and Design of Supply Chains
BL	Consulting Services
CEP	Courier, Express and Parcels
CEO	Chief Executive Officer
CFO	Chief Financial Officer
COO	Chief Operating Officer
CPFR	Collaborative Planning, Forecasting and Replenishment
CRM	Customer Relationship Management
DLP	Dominant Logistics Service Provider
DVZ	Deutsche Verkehrszeitung
e´SCM	e´ Supply Chain Management
ECR	Efficient Consumer Response
EDI	Electronic Data Interchange
ERP	Enterprise Resource Planning Systems
FMCG	Fast Moving Consumer Goods
FRL	Financing and Risk Transfer
GATT	General world-wide customs and trading agreement
ISO	International Organization for Standardization
IT	Information Technology
ITS	IT-Services

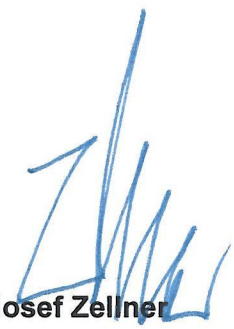
LLP	Lead Logistics Service Provider
MTL	Added-Value Transport and Storage Services
OECD	Organization for Economic Cooperation and Development
O.E.M.	Original Equipment Manufacturer
OSC	Planning of Supply Chains
SCC	Supply Chain Controlling
SCM	Supply Chain Management
SCMS	Supply Chain Management Systems
TUL	Transport-Umschlag-Lagerung (Transportation-Loading-Warehousing)

Affidavit

I hereby declare, that this dissertation has been solely prepared and written by me, with the aid as mentioned.

All references have been mentioned and clearly depicted, and have been explicitly stated.

This dissertation has not been placed before any other examination committee.



Josef Zellner **March, 2008**